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## World population monitoring, focusing on population, development and HIV/AIDS, with particular emphasis on poverty

### Report of the Secretary-General

*Summary*

The present report has been prepared in accordance with decision 2004/1 of the Commission on Population and Development, in which the Commission reaffirmed that the special theme for its thirty-eighth session should be "Population, development and HIV/AIDS, with particular emphasis on poverty".

The AIDS pandemic has gained momentum during the past quarter-century, expanding to all regions of the world. AIDS affects both the rich and the poor, but the hardest-hit countries are among the poorest in the world. Unless more vigorous actions are undertaken to combat the disease and its effects, the HIV/AIDS epidemic portends a grim future for many countries, especially the poorest countries. The report concludes that the most effective approach to thwarting the HIV/AIDS epidemic is to implement a combination of strategies that reduces risks, diminishes vulnerability and mitigates impact.

The report was prepared by the Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat. The Population Division acknowledges the contribution of the Joint United Nations Programme on HIV/AIDS (UNAIDS), for the preparation of section II on the determinants of HIV/AIDS and section VIII on prevention, treatment and care.

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## Introduction

1. The HIV/AIDS epidemic has been a gathering force for nearly a quarter-century, and it continues to be a major global challenge. AIDS finds its victims in both rich and poor countries. There is no region of the world where HIV/AIDS is not a potentially serious threat to the population.

2. Sub-Saharan Africa has so far borne the brunt of the AIDS devastation, and the region continues to experience high rates of infection. About 3 million people in the region were newly infected with the virus in 2004. Countries in Eastern Europe and Asia now have the fastest-growing rates of HIV infection in the world, and the populous countries of China, India and Indonesia are of particular concern. In some more developed countries, there are signs of a resurgence of risky sex between men.

3. HIV/AIDS was already recognized as a global threat to health and development in 1994, when the Programme of Action of the International Conference on Population and Development[1] was adopted. The epidemic was closely interlinked with the Conference's central concerns of population and development. The Programme of Action recommended a range of actions aimed at preventing HIV infection and providing support for individuals and families coping with the disease. Five years later, in 1999, with the HIV/AIDS epidemic continuing to worsen, the key actions for the further implementation of the Programme of Action of the International Conference on Population and Development (General Assembly resolution S-21/2, annex), adopted at the twenty-first special session of the Assembly, included additional recommendations for combating the epidemic.

4. The urgency of the AIDS crisis was conveyed in the Declaration of Commitment on HIV/AIDS, adopted by the General Assembly at its twenty-sixth special session in June 2001 (Assembly resolution S-26/2, annex). Overcoming the AIDS epidemic has proved to be a challenge with respect to the achievement of the eight Millennium Development Goals, which were agreed upon by 147 heads of State and government at the United Nations in 2000. Not only is halting the spread of HIV/AIDS one of the goals, but success or failure in meeting this goal will profoundly affect the ability to reach most of the other goals. A high-level plenary meeting in 2005 will review progress towards these goals and fulfilment of all the commitments contained in the United Nations Millennium Declaration (see Assembly resolution 55/2).

5. Globally, the highest HIV prevalence rates are found in poor countries, but within regions such as Africa, it is not necessarily the poorest countries that have the highest prevalence rates. Nevertheless, poverty increases vulnerability to HIV/AIDS and exacerbates the devastation of the epidemic. Poverty deprives individuals of the means to cope with HIV/AIDS. The poor often lack the knowledge and awareness that would enable them to protect themselves from the virus, and, once infected, they are less able to gain access to care and life-prolonging treatment.

6. The international community has responded to the challenge of AIDS with an unprecedented level of financial resources, but it is still less than half of what is needed to effectively conquer AIDS (UNAIDS, 2004a). The Global Fund to Fight AIDS, Tuberculosis and Malaria, which was established in 2002 as a partnership among Governments, civil society and the private sector, had by June 2004 approved 314 grants in 128 countries totalling US$ 3 billion, most of which was

directed towards AIDS programmes. Funding alone, however, will not stop the epidemic from infecting new victims in new countries and regions. Preventing new cases of HIV/AIDS depends on changing the behaviour of all those at risk of contracting the disease. As the Secretary-General of the United Nations said in his statement of 20 July 2001 to the Conference of G-8 heads of State, the first priority is "to ensure that people everywhere — particularly the young — know what to do to avoid infection".[2]

# I. Population, HIV/AIDS and poverty: an overview

7. Poverty and HIV/AIDS are interrelated. Poverty is a key factor leading to behaviours that expose people to the risk of HIV infection, and poverty exacerbates the impact of HIV/AIDS. The experience of HIV/AIDS can readily lead to an intensification of poverty and can push some non-poor into poverty (African Studies Center, 2003).

8. By the end of 2004, there were an estimated 39 million people living with HIV/AIDS, an increase from 37 million in 2002. Among the persons infected with HIV, 25 million lived in sub-Saharan Africa, 7.1 million in South and South-eastern Asia, and over 2 million in Latin America and the Caribbean (UNAIDS, 2004a). Thus, 64 per cent of HIV-infected persons were located in the countries of sub-Saharan Africa, while this region was home to only 11 per cent of the world's population. Within Africa, the most affected populations are found in Eastern and Southern Africa. While in Eastern Africa, the level appears to have stabilized or fallen, adult HIV prevalence in Southern Africa has soared, overtaking that of Eastern Africa. Rates of infection are still on the rise in many countries in sub-Saharan Africa, such as Gabon, Guinea, Liberia, Madagascar and Swaziland. Sharp increases in HIV infections have been observed in China, Indonesia and Viet Nam. Countries of Eastern Europe and Central Asia have fast-expanding epidemics fuelled by injecting drug use.

9. The present report draws upon the estimates of the demographic impact of HIV/AIDS that were carried out as part of the 2002 Revision of *World Population Prospects* (United Nations, 2003c), which incorporated the impact of AIDS into the estimates and projections of the populations of 53 countries, including 48 countries where HIV prevalence among adults aged 15-49 had exceeded 1.9 per cent by 2001, and 5 countries with lower prevalence but with a large number of persons infected (see box).

10. Tables 1 and 2 provide an overview of the current demographic, social and economic situation in the 48 countries most heavily impacted by HIV/AIDS and compares it to the social and economic situation in the more and less developed regions as a whole. In general, AIDS has affected countries that have younger populations, with relatively high levels of fertility, mortality and rates of population growth.

11. An estimated 13 per cent of the world's people, over 800 million, currently live in the 48 countries with high prevalence of HIV/AIDS. Of the total population living in countries heavily affected by AIDS, 659 million (81 per cent) are in Africa, 128 million in Asia (16 per cent) and 27 million in Latin America and the Caribbean

**Estimates and projections of the demographic effects of HIV/AIDS**

The present report draws upon the estimates of the demographic impact of HIV/AIDS that were carried out as part of the 2002 Revision of *World Population Prospects* (United Nations, 2003c), in which the Population Division of the United Nations Secretariat incorporated the impact of AIDS into the estimates and projections of the populations of 53 countries. The estimates and projections are consistent with the 2001 estimates of HIV prevalence produced by the Joint United Nations Programme on HIV/AIDS (UNAIDS). Equivalent estimates and projections consistent with the latest estimates of HIV prevalence issued by UNAIDS in 2004 are in preparation. The most recent HIV/AIDS estimates of UNAIDS and the World Health Organization (WHO), which pertain to December 2004 at the regional level (UNAIDS, 2004a) and December 2003 for detailed data by countries (UNAIDS, 2004b), are similar to the earlier estimates in most countries but indicate notably lower prevalence in Cameroon, Côte d'Ivoire, Ethiopia, Kenya, Rwanda, Zambia and Zimbabwe, and higher prevalence in Senegal. These changes are mainly the result of reassessments of data inputs and estimation methods rather than of real decreases in prevalence (UNAIDS, 2002a; UNAIDS, 2004b; Walker and others, 2004). Data regarding trends in the prevalence of HIV and AIDS have been improving, but the amount and quality of information continue to vary between countries.

In most of the countries for which an assessment of the demographic impact of HIV/AIDS has been carried out, HIV prevalence is estimated to have exceeded 1.9 per cent among the adult population aged 15-49. In addition, a few populous countries with prevalence levels under 1 per cent were included because of the large number of persons living with HIV. Of the 48 countries with high HIV prevalence, 38 are in Africa, 3 are in Asia and 7 are in Latin America and the Caribbean. Almost 60 per cent of them (28 countries) are in the group of least developed countries, including 27 countries in sub-Saharan Africa and 1 (Haiti) in Latin America and the Caribbean:

*Countries with high adult HIV prevalence (N=48)*:

*1-5 per cent (N=22)*: Bahamas, Belize, Benin, Cambodia, Chad, Democratic Republic of the Congo, Dominican Republic, Equatorial Guinea, Eritrea, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Guyana, Honduras, Mali, Myanmar, Sudan, Thailand, Trinidad and Tobago, Uganda;

*5-10 per cent (N=14)*: Angola, Burkina Faso, Burundi, Congo, Côte d'Ivoire, Djibouti, Ethiopia, Haiti, Liberia, Nigeria, Rwanda, Sierra Leone, Togo, United Republic of Tanzania;

*10-20 per cent (N=5)*: Cameroon, Central African Republic, Kenya, Malawi, Mozambique;

*20 per cent or more (N=7)*: Botswana, Lesotho, Namibia, South Africa, Swaziland, Zambia, Zimbabwe.

*Other countries with large numbers of HIV infections (N=5)*:

Brazil, China, India, Russian Federation, United States of America.

The demographic impact of HIV/AIDS is assessed by comparing population estimates and projections based on realistic assumptions about the course of the epidemic with hypothetical estimates and projections of trends in the absence of HIV/AIDS. The latter are derived from the application of the Population Division's standard projection programme on the basis of assumptions regarding mortality trends that are similar to those made with respect to countries that are still largely free from the AIDS epidemic. The estimates of the past and future course of the epidemic, carried out by the UNAIDS, are incorporated into the population estimates and projections (United Nations, 2004c). Actual trends will depend on breakthroughs in prevention and treatment, and on success at scaling up the response to the epidemic.

(3 per cent). Twenty-eight of the highly impacted countries belong to the group, of least developed countries and account for three fifths of the population of that group.

12. The estimated average annual growth rate for the aggregate population of the 48 heavily affected countries between 2000 and 2005 (2.0 per cent) is higher than that estimated for the total population of the less developed regions during the same period (1.5 per cent) (table 1). In Africa, Asia, and Latin America and the Caribbean, the population growth rates for the AIDS-affected countries are similar to those for the regions as a whole.

13. Most of the AIDS-affected countries have young populations. The average proportion of children under age 15 in the heavily affected countries (41 per cent) is significantly higher than that of the less developed regions as a whole (31 per cent), while the proportions of adults and older persons are lower.

14. The most immediate effect of the epidemic has been to increase mortality. Countries that are highly affected by the HIV/AIDS epidemic have higher mortality than the less developed countries on the whole. For 2000-2005, the life expectancy at birth in the AIDS-affected countries averaged 48 years, 15 years lower than the average for the less developed regions, and 2 years lower than the average for the least developed countries. These differences are similar for both men and women.

15. Both the average infant mortality rate (89) and the average under-five mortality rate (152) in the 48 heavily AIDS-affected countries are higher than the corresponding averages for the less developed regions (61 and 89, respectively). In Africa, Asia and Latin America and the Caribbean, the average rates for the countries with high prevalence of HIV/AIDS are also higher than the corresponding regional averages.

16. The average total fertility rate (TFR) estimated for the 48 AIDS-affected countries between 2000 and 2005 (4.7 children per woman) is higher than the average for the less developed regions for the same period (2.9). A considerable

Table 1
**Demographic indicators for groups of countries, by region and level of HIV/AIDS prevalence**

| Major area and HIV prevalence | Population 2004 (millions) | Growth rate (%) 2000-2005 | Age structure (%) 2004 | | | TFR 2000-2005 | Life expectancy (2000-2005) | | | Infant mortality 2000-2005 | Under-5 mortality 2000-2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0-14 | 15-59 | 60+ | | Total | Male | Female | | |
| | | | | | *A. All countries* | | | | | | |
| World total | 6 378 | 1.2 | 29 | 61 | 10 | 2.7 | 65 | 63 | 68 | 56 | 81 |
| More developed regions | 1 206 | 0.2 | 17 | 63 | 20 | 1.6 | 76 | 72 | 79 | 8 | 10 |
| Less developed regions | 5 172 | 1.5 | 31 | 61 | 8 | 2.9 | 63 | 62 | 65 | 61 | 89 |
| Least developed countries | 736 | 2.4 | 43 | 53 | 5 | 5.1 | 50 | 49 | 50 | 97 | 161 |
| Africa | 869 | 2.2 | 42 | 53 | 5 | 4.9 | 49 | 48 | 50 | 89 | 148 |
| Asia | 3 871 | 1.3 | 29 | 62 | 9 | 2.5 | 67 | 66 | 69 | 53 | 71 |
| Latin America and the Caribbean | 551 | 1.4 | 30 | 61 | 8 | 2.5 | 70 | 67 | 74 | 32 | 41 |
| | | | | | *B. Countries heavily affected by HIV/AIDS*[a] | | | | | | |
| All 48 countries | 814 | 2.0 | 41 | 54 | 5 | 4.7 | 48 | 47 | 49 | 89 | 152 |
| Africa | 659 | 2.2 | 44 | 52 | 5 | 5.3 | 45 | 44 | 46 | 94 | 161 |
| Asia | 128 | 1.3 | 29 | 63 | 8 | 2.5 | 63 | 59 | 66 | 56 | 83 |
| Latin America and the Caribbean | 27 | 1.6 | 35 | 58 | 7 | 3.2 | 61 | 60 | 63 | 44 | 72 |
| Adult HIV prevalence (percentage) | | | | | | | | | | | |
| 1-5 | 330 | 2.1 | 38 | 56 | 6 | 4.2 | 54 | 52 | 56 | 86 | 144 |
| 5-10 | 324 | 2.4 | 45 | 51 | 5 | 5.7 | 46 | 46 | 47 | 95 | 162 |
| 10-20 | 84 | 1.7 | 43 | 52 | 5 | 4.8 | 42 | 41 | 43 | 96 | 163 |
| >20 | 76 | 0.7 | 37 | 57 | 6 | 3.3 | 41 | 40 | 43 | 65 | 114 |

*Sources: World Population Prospects: The 2002 Revision*, CD-ROM (United Nations publication, Sales No. E.03.XIII.8); and special tabulations.
*Note*: TFR = total fertility rate.
[a] Countries where adult HIV prevalence exceeded 1.9 per cent by 2001 (see text).

heterogeneity, however, characterizes fertility levels in countries with high prevalence of HIV/AIDS. Indeed, these countries include both low-fertility countries such as Thailand and Trinidad and Tobago, where fertility is already below replacement level, and high-fertility countries, including Angola, Burkina Faso, Burundi, the Democratic Republic of the Congo, Guinea-Bissau, Mali and Uganda, where fertility levels are six children or more per woman. In Africa and Latin America and the Caribbean, but not in Asia, the average TFRs for the AIDS-affected countries are higher than the averages for the regions as a whole.

**Poverty conditions**

17. Table 2 presents unweighted averages for several indicators of poverty and social and economic development for major areas and for countries grouped according to level of HIV/AIDS prevalence. In general, AIDS-affected countries present relatively poor socio-economic indicators. This is particularly true for the AIDS-affected African countries where, on average, one third of children of primary-school age are not in school, 40 per cent of the adult population is illiterate, one quarter of the children under age 5 are underweight for age and one third of the population is undernourished. A little more than half of the population has access to improved sanitation and less than two thirds to an improved water source; 40 per cent of the population subsists on under $1 a day. The averages for the AIDS-affected countries in the other two developing regions, particularly Latin America and the Caribbean, portray a less critical situation of poverty.

18. A comparison between the regional averages calculated for the AIDS-affected countries only (table 2, panel B) and the corresponding averages for all countries in each region (panel A) suggests that, in general, poverty levels are relatively higher in AIDS-affected countries. Among the heavily AIDS-affected countries, however, the countries with higher levels of HIV prevalence are not always those with poorer average indicators. In particular, the levels of poverty in the countries with adult HIV prevalence higher than 20 per cent are lower than the levels for the countries with prevalence between 10 and 20 per cent. Indeed, Southern Africa, which contains several of the countries with the highest HIV prevalence, is the most economically advanced region within sub-Saharan Africa. Currently, this group of hardest-hit countries has, on average, higher levels of education, higher levels of access to improved sanitation and water sources, higher levels of public expenditure on education and health, and lower levels of child and adult undernourishment. However, the hardest-hit countries also tend to have high levels of income/consumption inequality (table 2, column 9). The ratio of income/consumption of the richest 10 per cent of the population to that of the poorest 10 per cent amounts to almost 70 in the seven most affected countries. In addition, on average one third of these countries' population is estimated to be living on less than $1 per day, a high proportion considering these countries' relatively high gross domestic product (GDP) per capita.

19. In summary, sub-Saharan Africa, the region that contains the world's poorest populations, is by far the most severely affected by HIV/AIDS. While this region is home to 11 per cent of the world's population, it accounted for about two thirds of the HIV-infected persons as of 2004. However, the HIV epidemic is not confined to the poorest countries. Nearly every country in the world has been affected, and in many, the epidemic is continuing to spread.

Table 2

**Average poverty indicators for groups of countries, by major area and level of HIV prevalence**

| Major area and level of HIV prevalence | Education | | Health | | Sanitation | | Income | | | Public expenditure | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Net enrolment ratio for primary schools (%) 2000-2002 | Adult literacy rate (% ages 15 and above) 2002 | Children underweight for age (% under age 5) 1995-2002 | Undernourished people (% of total population) 1999-2001 | Population with access to improved sanitation (%) 2000 | Population with access to an improved water source (%) 2000 | People living on less than $1 a day 1990-2002 (%) | GDP per capita (PPP US$) 2002 | Ratio: income of richest 10% to poorest 10% 1990-2002[a] | Public expenditure on education (% of GDP) 1999-2001 | Public expenditure on health (% of GDP) 2001 |
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
| | | | | | | *A. All countries* | | | | | |
| More developed regions | 95 | .. | .. | .. | .. | .. | .. | 20 287 | 9 | 5.2 | 5.5 |
| Less developed regions | | | | | | | | | | | |
| Africa | 72 | 61 | 22 | 29 | 59 | 65 | 35 | 3 442 | 31 | 4.0 | 2.5 |
| Asia[b] | 87 | 83 | 23 | 20 | 72 | 79 | 15 | 8 130 | 11 | 3.9 | 2.6 |
| Latin America and Caribbean | 93 | 88 | 9 | 16 | 84 | 88 | 12 | 6 439 | 41 | 4.9 | 3.6 |
| Least developed countries | 70 | 56 | 29 | 36 | 50 | 61 | 43 | 2 337 | 26 | 3.7 | 2.5 |
| | | | | | | *B. Countries heavily affected by HIV/AIDS*[c] | | | | | |
| All 48 countries | 73 | 65 | 23 | 30 | 57 | 65 | 35 | 3 477 | 33 | 3.9 | 2.4 |
| Africa | 68 | 61 | 25 | 32 | 54 | 62 | 41 | 2 850 | 36 | 4.0 | 2.5 |
| Asia | 85 | 82 | 33 | 21 | 59 | 62 | 18 | 3 366 | 13 | 2.8 | 1.4 |
| Latin America and Caribbean | 91 | 83 | 11 | 24 | 72 | 85 | 10 | 6 843 | 27 | 4.2 | 2.8 |
| Level of adult HIV prevalence (percentage) | | | | | | | | | | | |
| 1-5 | 78 | 67 | 22 | 26 | 58 | 67 | 28 | 4 887 | 20 | 3.0 | 2.3 |
| 5-10 | 58 | 54 | 29 | 37 | 50 | 57 | 41 | 1 188 | 25 | 3.8 | 2.1 |
| 10-20 | 70 | 62 | 23 | 39 | 62 | 60 | 37 | 1 164 | 27 | 4.5 | 2.4 |
| >20 | 80 | 83 | 17 | 26 | 64 | 81 | 34 | 4 951 | 69 | 6.2 | 3.6 |

*Sources*: Column 1: United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics (http://www.uis.unesco.org/, accessed 23 November 2004; columns 2-11: United Nations Development Programme (UNDP), *Human Development Report 2004* (New York, Oxford University Press, 2004), based on data from UNESCO Institute for Statistics, Food and Agriculture Organization of the United Nations (FAO) and United Nations Children's Fund (UNICEF).

*Note*: Two dots (..) signify data unavailable; the figures represent the unweighted averages for countries with available information included in each group; PPP = purchasing power parity; GDP = gross domestic product.

[a] Excluding Rwanda (1983) and Sierra Leone (1989).

[b] Excluding Japan.

[c] Countries where adult HIV prevalence exceeded 1.9 per cent by 2001 (see text).

# II. Determinants of HIV/AIDS

20. Although HIV affects rich and poor, young and old, and all regions of the world, HIV has disproportionately affected groups that already face social and economic disadvantages. While HIV prevalence has remained relatively low in many countries, infection has rapidly spread in others. Although less affected in the early years of the epidemic, women now make up one half of all people living with HIV and 57 per cent of those infected in sub-Saharan Africa (UNAIDS, 2004b). The present section describes key biological and social factors that influence HIV infection patterns.

## Biological determinants

21. *Sexual transmission.* Sexual transmission accounts for most HIV infections worldwide even though the risk of transmission per sex act is estimated at between 1 in 100 and 1 in 1,000. This risk increases considerably for those who have untreated sexually transmitted infections (STIs), especially where there are open sores or ulcers. As cuts or abrasions can provide a ready entry point for the virus, sexual assaults may pose a higher risk of transmission than consensual sexual intercourse. Studies have found that uncircumcised men are more likely to be infected than circumcised men; the unknown role of male circumcision in prevention is currently the subject of several clinical trials. Anal intercourse carries a higher risk of transmission than penile-vaginal intercourse, which in turn is riskier than oral sex. In general, the receptive partner is at higher risk than the active partner. Women therefore have a higher risk of becoming infected during intercourse than men, and adolescent girls are especially susceptible.

22. The prevalence of HIV is a key factor in determining the risk of transmission in a particular setting. While any single sexual act normally carries a low risk of transmission, the risk is significantly elevated in settings where one third of adults are infected with HIV. Because adults almost invariably have higher infection rates than adolescents, inter-generational sex greatly increases the risk of transmission to young people.

23. HIV transmission is more likely to occur when the infected partner has a higher plasma viral load. Viral load tends to be highest soon after initial infection and in the later stages of HIV disease. Because antiretroviral therapy (ART) lowers viral load to undetectable levels in most patients that adhere to prescribed combination regimens, it is possible that antiretroviral therapy may significantly reduce their infectivity. Experience in high-income countries, however, suggests that the availability of such therapy may cause an increase in risk behaviour, because people with HIV may become more sexually active as they become healthier, and because they may perceive that AIDS is no longer as serious a problem (Valdiserri, 2004). Although there is no evidence that this would apply in developing country settings, such effects could counterbalance the prevention benefits of antiretroviral therapy.

24. *Exposure to blood.* Direct exposure to infected blood is the most efficient route of transmission. Injecting drug use (IDU) is the most common means of blood-borne HIV transmission, accounting for approximately 10 per cent of all infections worldwide. An HIV-infected blood transfusion transmits HIV in the great majority

of cases. The risk of contracting HIV through a needle-stick injury involving HIV-infected blood is estimated at 0.3 per cent. As in the case of sexual transmission, the viral load of the source individual to whose blood or body fluid one is exposed plays an important role in respect of the risk of transmission, as does the amount of blood/body fluid to which one is exposed (Aberg and others, 2004).

25. *Mother-to-child transmission.* In the absence of any preventive intervention, a baby born to an HIV-infected breastfeeding mother faces a roughly 20-45 per cent chance of contracting HIV (De Cock and others, 2000). The risk of transmission is greater when the mother's viral load is elevated. Breastfeeding entails an independent risk of transmission, with risk increasing the longer the infant is breastfed. It is possible that mixed infant feeding (that is to say, combining breastfeeding with other forms of infant feeding) may entail a greater risk of transmission than breastfeeding alone (Coutsoudis, Pillay and Spooner, 1999), although this has not been confirmed.

26. *Reducing risk after exposure.* Studies on post-exposure prophylaxis regimens demonstrate that it is possible to prevent the establishment of infection by suppressing viral replication in the days following exposure — for example, by initiating antiretroviral therapy immediately following a needle-stick injury (Cardo and others, 1997) or by administering post-natal antiretroviral regimens to the newborn (Bultreys and others, 1999). Although definitive evidence does not yet exist for the effectiveness of post-exposure antiretroviral therapy prophylaxis for sexual exposure, extrapolation from the examples above suggests that it may also be effective.

## Social or other determinants

27. HIV transmission is profoundly influenced by the surrounding social, economic and political environment, including factors such as poverty, oppression, discrimination and illiteracy.

28. *Poverty.* In both high-income and developing countries, AIDS has often struck society's wealthiest and most influential, underscoring the universal nature of the threat posed by the epidemic. In general, however, the impacts of AIDS have disproportionately affected those who have the fewest economic and social resources. The epidemic reinforces these conditions by undermining food and economic security in the hardest-hit countries. AIDS deepens poverty and increases the number of poor at risk of infection, because those with the fewest resources have the least access to health-care services or health-related information.

29. *Stigma and discrimination.* The groups at highest risk of HIV infection are typically those who suffer from officially and unofficially sanctioned forms of discrimination. Sex work, sex between men, and injecting drug use are often illegal and elicit strong disfavour in many countries. Such forms of stigma are reinforced by the stigma associated with HIV itself.

30. Stigma increases vulnerability in several ways. Fearful that they will be ostracized, individuals at high risk of transmission avoid seeking out HIV-related information or other prevention services. Government authorities and local communities often discourage or actively harass programmes that provide prevention services to key populations. In many countries, laws prohibit needle and

syringe exchange programmes and place severe restrictions on drug substitution therapies, even though both approaches are vital to stemming the spread of HIV through injecting drug use and do not contravene international drug control treaties (International Narcotics Control Board (INCB), 2004).

31. *Gender inequities.* Many women in the hardest-hit countries face heavy economic, legal, cultural and social disadvantages which increase their vulnerability to HIV infection and to the epidemic's impact. In many countries, girls have limited educational opportunities. In some countries, women have few, if any, rights with respect to property ownership or secure tenure or to inheriting wealth, and many women either experience, or are at high risk of, sexual assault or other forms of violence. Divorce or the death of a husband can lead to destitution, sometimes forcing women to turn to sex for survival. Given the enormous legal, social and economic impediments facing women, many find it difficult, if not impossible, to negotiate condom use with their male partners, and may be forced into transactional sex as a result of their economic dependency on their partners, and their lack of power in the relationship. Throughout the world, women faithful to one partner become infected with HIV as a result of their partner's sexual activities outside the relationship. Trafficking for the sex trade is also a growing threat to women and girls. UNAIDS estimates that in seven countries in sub-Saharan Africa, women aged 15-24 are nearly three times more likely to be infected than their male counterparts.

32. *Mobility.* Mobility significantly increases HIV-related risk. Often, migrant workers move from low-prevalence rural regions to urban centres, where HIV prevalence is much higher and risk behaviours are more frequent. Studies have identified high infection rates among long-haul truck drivers, mine workers and other migrant labourers.

33. *Conflict.* In 2003, more than 72 countries were identified as unstable, and as a result of various conflicts, there are more than 42 million refugees and internally displaced people worldwide (IASC TF (Inter-Agency Standing Committee Task Force on HIV/AIDS in Emergency Settings), 2003). Populations fleeing complex emergencies such as armed conflict typically face destitution and food shortages. These conflicts can also create conditions that increase the risk of contracting infections such as HIV.

34. The impact of conflict on HIV transmission is complex and can vary significantly from setting to setting. In some circumstances, conflict appears to have served as a brake on the epidemic. For example, in Sierra Leone, conflict limited the movement of people and may have prevented the spread of the disease. In Bosnia and Herzegovina, prevalence was so low that even the displacement of large numbers of people did not increase prevalence (UNAIDS, 2004b). Where conflict exacerbates the spread of HIV, the dynamics are often similar to those for all mobile populations, where HIV risk is increased by migration from low-prevalence to higher-prevalence settings. Traditional sexual norms and social supports may break down during conflict, encouraging higher levels of risky behaviour. Health systems collapse, and women and girls may be subject to sexual violence or coerced by circumstances into exchanging sex for money, food or protection.

35. *Countries in transition.* Where countries undergo profound social, economic and political changes, HIV-related risk behaviours often increase. In the countries of the former Union of Soviet Socialist Republics, the age at which sex is initiated has fallen and drug use has increased (UNAIDS, 2002a). Such patterns are evident in

China, where dramatic social and economic changes have coincided with similarly marked increases in sexually transmitted infections (UNAIDS, 2001c).

36. *Incarceration.* At any given time, approximately 10 million people are imprisoned worldwide. Prisons are often breeding grounds for infectious diseases such as HIV, tuberculosis and hepatitis. Prison populations typically come from the most marginalized segments of society, which are already at high risk of HIV infection. Infection rates among incarcerated populations are typically higher than those for the population at large. In South Africa, where 20 per cent of the adult population is HIV-infected, the level in prisons is twice as high (Goyer, 2003). In the United States of America, AIDS cases are four times higher among prisoners than in the general population (Braithwaite and Arriola, 2003). More than 1 in 4 prison inmates in Spain is HIV-positive, and about 1 in 9 in both Switzerland and the Netherlands. Female prisoners are also at risk; in Brazil, Canada, and the United States, the rate of HIV infection is higher among female prisoners than among their male counterparts (UNAIDS, 2004b).

37. In summary, the risk of HIV infection — and the impact of the epidemic on those who are infected and affected — can differ profoundly depending on personal and social circumstances. Therefore, responses to the epidemic need to take account of the important contextual circumstances that may increase vulnerability.

# III. Mortality, population growth and orphanhood

## HIV/AIDS impact on mortality

38. In 2004, 3 million persons died prematurely from AIDS; over 20 million have died since the first cases of AIDS were identified in 1981. In most developing countries, particularly those in sub-Saharan Africa, the drug therapy that can delay the onset of the life-threatening symptoms of AIDS is still largely inaccessible. Consequently, in 2000-2005, the 38 heavily affected countries in Africa are expected to experience nearly 15 million more deaths than they would have in the absence of AIDS (table 3). A further 3.5 million excess deaths will occur in Asia, with India accounting for most of them. In Latin America and the Caribbean, the number of excess deaths is lower, amounting to 0.7 million, and in the two more developed countries with the largest number of infections — the United States of America and the Russian Federation — it is expected to total 0.8 million.

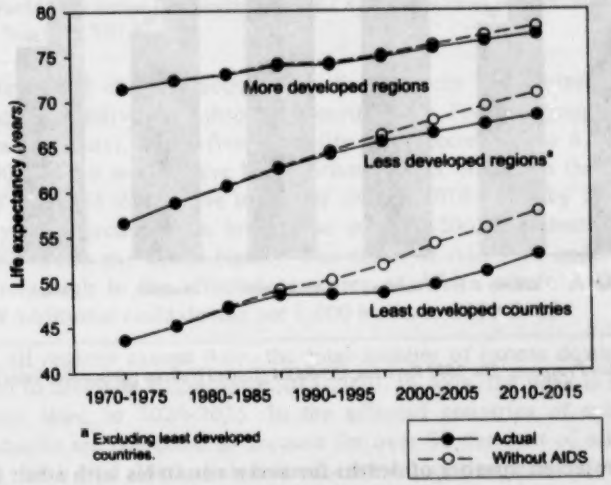
Table 3
**Projection of excess deaths with AIDS compared with a projection assuming no AIDS, for groups of affected countries in major areas, 1995-2000, 2000-2005 and 2010-2015**
(Millions)

| *Country group* | *1995-2000* | *2000-2005* | *2010-2015* |
|---|---|---|---|
| All 53 affected countries | 11.2 | 19.8 | 32.3 |
| 38 countries in Africa | 8.1 | 14.8 | 18.9 |
| 5 countries in Asia | 2.0 | 3.5 | 10.9 |
| 8 countries in Latin America and the Caribbean | 0.5 | 0.7 | 0.8 |

*Source*: *World Population Prospects: The 2002 Revision*, vol. III, *Analytical Report* (United Nations publication, Sales No. E.03.XIII.10).

39. Until recently, there was a general trend of lengthening life expectancy in low- and middle-income countries. However, HIV/AIDS has brought that trend to a halt in the least developed countries and is significantly slowing the trend in other developing countries (figure I). Owing to the extremely high number of excess deaths in sub-Saharan Africa, life expectancy in the affected African countries as a whole is projected to fall from 47 years in 1995-2000 to 45 years in 2000-2005. By 2010-2015, life expectancy in the affected countries of Africa will be 11 years lower than it would have been without AIDS.

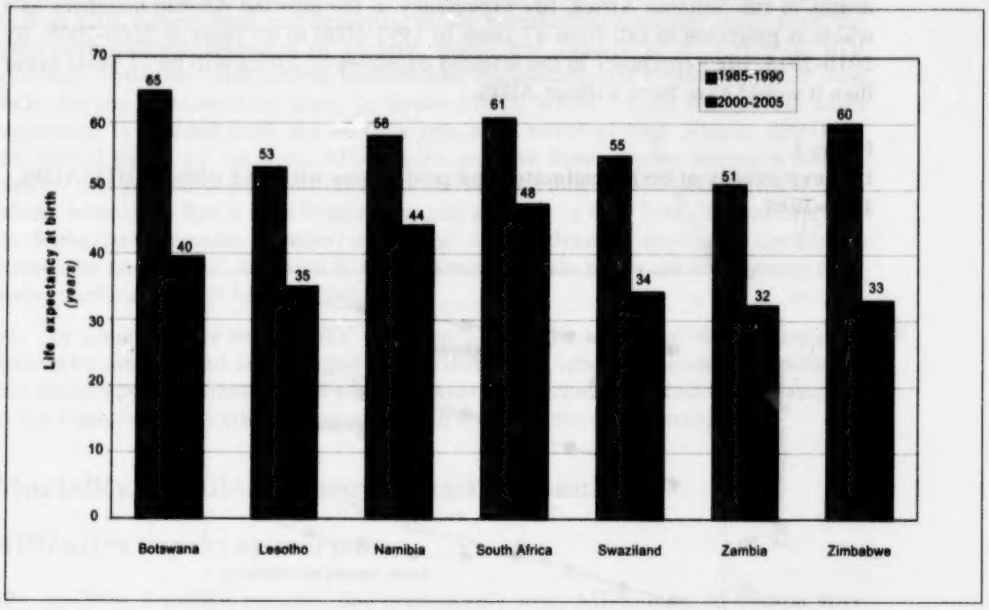
Figure I
**Life expectancy at birth: estimates and projections with and without HIV/AIDS, 1970-2015**




*Source*: *World Population Prospects: The 2002 Revision*, CD-ROM (United Nations publication, Sales No. E.03.XIII.8).

40. The seven countries with adult HIV prevalence of 20 per cent or more in 2001 are expected to experience 155 per cent more deaths in 2000-2005 than they would have without AIDS (table 4). Life expectancy in these countries is expected to be 22 years lower in 2000-2005 and 29 years lower in 2010-2015 than it would have been in the absence of AIDS (table 5). Figure II shows life expectancy in 1985-1990 and 2000-2005 for the seven highest-prevalence countries.

Figure II
**Life expectancy at birth in the seven countries with highest HIV prevalence, 1985-1990 and 2000-2005**




*Source: World Population Prospects: The 2002 Revision,* CD-ROM (United Nations publication, Sales No. E.03.XIII.8).

Table 4
**Estimated and projected number of deaths for seven countries with adult HIV prevalence of 20 per cent or more, 1995-2015**
(Millions)

| *Country group* | *1995-2000* | *2000-2005* | *2005-2010* | *2010-2015* |
|---|---|---|---|---|
| Seven countries with prevalence of 20 per cent or more | | | | |
| Without AIDS | 3 | 3 | 3 | 3 |
| With AIDS | 5 | 8 | 10 | 10 |
| Absolute difference | 2 | 5 | 6 | 6 |
| Percentage difference | 71 | 155 | 204 | 193 |

*Source*: *World Population Prospects: The 2002 Revision*, CD-ROM (United Nations publication, Sales No. E.03.XIII.8).

Table 5
**Estimated and projected life expectancy at birth for seven countries with adult HIV prevalence of 20 per cent or more, 1995-2015**

| *Country group* | *1995-2000* | *2000-2005* | *2005-2010* | *2010-2015* |
|---|---|---|---|---|
| **Seven countries with prevalence of 20 per cent or more** | | | | |
| **Without AIDS** | 63.3 | 63.7 | 65.4 | 67.0 |
| **With AIDS** | 50.2 | 41.3 | 37.3 | 37.6 |
| **Absolute difference** | 12.0 | 22.4 | 28.1 | 29.4 |
| **Percentage difference** | 19.3 | 35.1 | 43.0 | 43.9 |

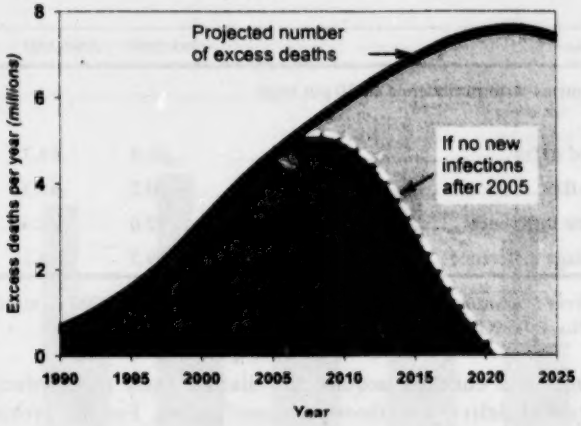
*Source*: ***World Population Prospects: The 2002 Revision***, **CD-ROM (United Nations publication, Sales No. E.03.XIII.8).**

41. Infants and children acquire the disease from their infected mothers during pregnancy and delivery or through breastfeeding. For the group of all 53 affected countries (see box), under-five mortality is projected to be 8 per cent higher in 2000-2005 than it would have been without AIDS. Although the relative impact of AIDS is expected to increase to 10 per cent in 2010-2015, by that time under-five mortality is projected to be lower than in 2000-2005 (76 deaths per 1,000 births versus 92 deaths per 1,000 births). The effect of AIDS on under-five mortality is particularly high in the affected countries of Africa where AIDS is expected to cause 19 additional child deaths per 1,000 births in 2000-2005.

42. In all regions except Asia, the total number of excess deaths due to AIDS is projected to continue rising until 2015-2020. In Asia, the peak is expected to occur five years later, in 2020-2025. In the affected countries of sub-Saharan Africa, excess deaths are projected to account for over 30 per cent of all deaths occurring between 2010 and 2015. Sub-Saharan Africa will experience 43 per cent more deaths than it would have in the absence of AIDS.

43. The Population Division of the United Nations Secretariat has also prepared a hypothetical "no new cases" scenario, which assumes that there would be no new infections after 1 July 2005. This scenario shows that even if there were no more infections after mid-2005, the number of deaths from AIDS would be higher during 2005-2010 than during the preceding five years owing to the large number of people already infected (figure III). For future years, especially after 2010, the projected excess mortality due to AIDS increasingly represents the early deaths of persons not yet infected. Whether the projection proves to be too optimistic or too pessimistic depends on actions taken now to prevent infection and improve treatment.

Figure III
**Estimated and projected excess deaths due to AIDS in 53 countries, 1990-2025**




*Source*: ***World Population Prospects: The 2002 Revision***, CD-ROM (United Nations Publication, Sales No. E.03.XIII.8).

Note: The dark line represents the projected number of excess deaths in comparison to the "No AIDS" scenario. The dashed white line indicates the projected number of excess deaths if all HIV transmission were halted in mid-2005.

## HIV/AIDS and population growth and structure

44. The rising numbers of deaths due to AIDS are expected to result in a reduction of population growth and, in some instances, even in a decrease of population size. The impact of AIDS in reducing population growth and population size is due both to excess deaths and to a deficit of births that will not occur because HIV-infected women die before the end of their reproductive life. Although most of the population reduction is due to excess deaths, the share of the population deficit attributable to missing births grows steadily over time.

45. The total projected population of the 53 affected countries in 2005 is 3.9 billion, 49 million less than it would have been in the absence of AIDS (table 6). By 2015, the reduction of population size due to AIDS is projected to increase to 129 million, that is to say, the population is projected to be 3 per cent lower than it would have been without AIDS. The population of affected African countries is projected to be 91 million (or 10 per cent) less in 2015 than it would have been in the absence of AIDS. The second largest reduction is projected to occur in the five affected countries of Asia, whose population is expected to be 29 million less in 2015 than it would have been in the absence of AIDS.

Table 6
**Estimated and projected effects of HIV/AIDS on population size and population growth, 1995-2015**

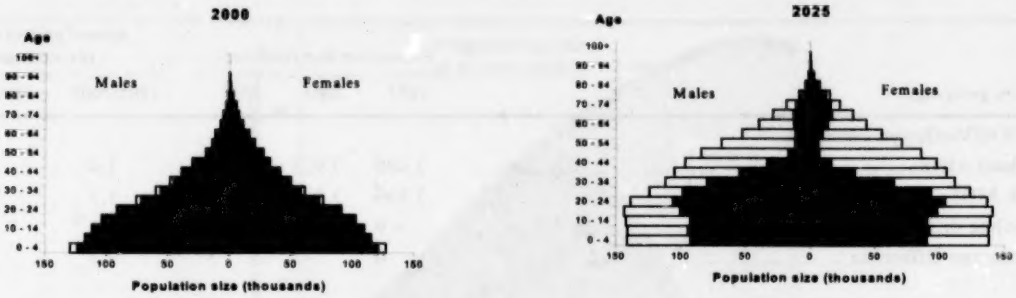
| *Country grouping* | *Population size (millions)* | | | *Annual growth rate (percentage)* | |
|---|---|---|---|---|---|
| | *1995* | *2005* | *2015* | *1995-2005* | *2005-2015* |
| All 53 HIV-affected countries | | | | | |
| Without AIDS | 3 408 | 3 923 | 4 440 | 1.4 | 1.2 |
| With AIDS | 3 399 | 3 874 | 4 312 | 1.3 | 1.1 |
| Absolute difference | - 9 | - 49 | - 129 | 0.1 | 0.1 |
| Percentage difference | 0 | - 1 | - 3 | 7.1 | 8.3 |
| 38 HIV-affected countries in Africa | | | | | |
| Without AIDS | 539 | 709 | 914 | 2.7 | 2.5 |
| With AIDS | 533 | 673 | 823 | 2.3 | 2.0 |
| Absolute difference | - 6 | - 36 | - 91 | 0.4 | 0.5 |
| Percentage difference | - 1 | - 5 | - 10 | 14.8 | 20.0 |
| 7 countries with HIV prevalence of 20 per cent or more | | | | | |
| Without AIDS | 69 | 85 | 102 | 2.1 | 1.8 |
| With AIDS | 68 | 76 | 77 | 1.1 | 0.0 |
| Absolute difference | - 1 | - 9 | - 25 | 1.0 | 1.8 |
| Percentage difference | - 1 | - 11 | - 25 | 47.6 | 100.0 |

*Source*: *World Population Prospects: The 2002 Revision*, CD-ROM (United Nations publication, Sales No. E.03.XIII.8).

46. In the 38 heavily affected countries of Africa, the average annual growth rate for the period 2005-2015 is expected to be 2.0 per cent per year, owing to HIV/AIDS, instead of 2.5 per cent. In the seven countries with HIV prevalence of 20 per cent or more, AIDS is projected to bring population growth almost to a halt, with an increase of just 0.6 million persons between 2005 and 2015. In the absence of AIDS, their overall population would have increased by 17 million. According to the United Nations projections, by 2025, the 38 affected African countries will have populations 14 per cent smaller than they would be in the absence of AIDS. In the seven most affected countries, the population is projected to be more than one third smaller in 2025 than it would be in the absence of AIDS.

47. The excess and premature mortality caused by AIDS also has a major impact on the age structure of affected populations. Figure IV shows the age pyramid with and without AIDS in 2000 and 2025 for Botswana, the country with the highest prevalence rate in 2001. The impact of AIDS is just visible in 2000 among young adults and children under age 5. By 2025, the impact is dramatic, with lower numbers at all ages but especially the adult ages when most people are working and bringing up children.

Figure IV
**Population size and age structure with and without AIDS, Botswana, 2000 and 2025**




*Source*: *World Population Prospects: The 2002 Revision*, CD-ROM (United Nations publication, Sales No. E.03.XIII.8).
Note: Unshaded bars represent the hypothetical size of the population in the absence of AIDS. Shaded bars represent the actual estimated and projected population.

## Impact of HIV/AIDS on orphanhood

48. UNAIDS, the United Nations Children's Fund (UNICEF) and the United States Agency for International Development (USAID) (UNAIDS, UNICEF and USAID, 2004) have prepared estimates on AIDS orphans, who are defined as children aged 0-17 who have lost one or both parents to AIDS. Between 2001 and 2003, the number of AIDS orphans worldwide increased from 11.5 million to 15 million. Of the 15 million AIDS orphans, 12 million lived in sub-Saharan Africa. Nigeria alone was home to 1.8 million AIDS orphans in 2003. Other countries with large numbers of AIDS orphans were South Africa (1.1 million), the United Republic of Tanzania (980,000), Zimbabwe (980,000) and Uganda (940,000).

49. The proportion of AIDS orphans among all orphans in sub-Saharan Africa rose from just under 2 per cent in 1990 to over 28 per cent in 2003 and is projected to rise to 37 per cent by 2010. In 2003, there were 88 million orphans in Asia (owing to all causes). Even a small increase of HIV prevalence in Asia, particularly in heavily populated countries such as China, India and Indonesia, could drastically increase the number of AIDS orphans.

50. In summary, the AIDS epidemic has increased mortality and shortened life expectancy in the most affected countries. Population growth has begun to slow, and in the seven countries with the highest prevalence rates, growth is expected to come almost to a halt during the next decade. Even if there were no new infections after mid-2005, the number of deaths would continue to rise for several years because of the large number of persons already infected. AIDS has created millions of orphans — about 15 million by the end of 2003, of whom 12 million lived in Africa.

# IV. Fertility and sexual behaviour

51. Changes in sexual behaviour play a crucial role in determining the course of the HIV/AIDS epidemic and also can affect fertility levels, the social context of reproduction and the epidemic's differential impacts upon poorer and more affluent social groups. While there is a consensus that HIV/AIDS has had at most a small effect on fertility levels of the general population, it has had a more important impact on fertility of those infected with HIV (Zaba and Gregson, 1998; United Nations, 2002a).

## Effects of HIV/AIDS on levels of fertility of infected persons

52. There is consistent evidence that the fertility of HIV-positive women is lower than that of uninfected women. Studies conducted in the Democratic Republic of the Congo, Rwanda, Uganda, the United Republic of Tanzania and Zambia indicated that fertility is 25-40 per cent lower among HIV-positive women (United Nations, 2002a). Positive HIV status lowers fertility directly by reducing fecundability (the monthly probability that a woman will conceive) and by increasing the risk of foetal loss.

53. The evidence suggests that the most important reason for reduced fertility among infected women is co-infection with other sexually transmitted infections. Women infected with HIV are more likely than other women to have another sexually transmitted infection. Sexually transmitted infections are associated with genital ulceration and a high rate of sexual transmission of HIV. Sexually transmitted infections also frequently cause pelvic inflammatory disease, which often produces infertility. In addition, coital frequency is probably lower among those whose HIV infection has progressed to AIDS, and there is some evidence of decreased production of spermatozoa in infected men, and lower semen quality once infection progresses to AIDS (United Nations, 2002a).

54. With respect to foetal loss, empirical evidence collected from both developed and developing countries shows that HIV-positive women have elevated rates of spontaneous abortion. A principal reason is the substantially higher prevalence of syphilis among women with HIV. Syphilis increases the risk of stillbirth by roughly 25 per cent and early foetal loss by a smaller but still significant amount among all women. HIV infection further increases the risk of foetal loss (United Nations, 2002a).

55. The potential for HIV-positive status to influence fertility through deliberate behavioural change has so far been limited since, in most countries with serious HIV/AIDS epidemics, a large majority of those infected are unaware of their HIV status until infection expresses itself in overt physical symptoms. However, as testing for HIV status becomes more common, there will be greater scope for acquiring knowledge of how HIV status affects sexual and reproductive behaviour.

56. A number of studies have documented changes in sexual behaviour following knowledge of HIV-positive status. Changes in behaviour include a reduction in the number of sex partners and an increase in consistent condom use both with non-primary partners and with the regular partner. Such changes were most likely when testing for HIV status was followed by counselling, and when couples, and not just individuals, received counselling. For instance, a multi-centre study conducted in

Kenya, Trinidad and Tobago and the United Republic of Tanzania demonstrated that counselling resulted in a significant decrease in unprotected intercourse both with non-primary partners and with primary partners who were also enrolled in the study. Among those who received counselling, the proportion of men and women reporting unprotected intercourse declined by 35 per cent and 39 per cent, respectively, compared with 13 per cent among men and 17 per cent among women who were given health education alone (UNAIDS, 2001d).

57. Studies of "sero-discordant" couples, in which only one partner was infected with HIV, almost always showed significant increases in condom use or significant decreases in seroconversion when partners were counselled and tested together (UNAIDS, 2001d). In the Democratic Republic of the Congo, the proportion of sero-discordant couples who used condoms during all episodes of sexual intercourse increased from less than 5 per cent before determination of HIV status and receipt of counselling to 71 per cent after one month and to 77 per cent after 18 months (Kamenga and others, 1991).

58. By contrast, the majority of studies carried out where only one partner was aware of his or her status show that, although people may change their behaviour to reduce HIV transmission, they find it difficult to sustain the changes over the long term. Cultural and social factors, such as taboos surrounding discussion of sexual issues, act as barriers to changing sexual behaviour for both men and women in developing countries. Most studies report that women find it especially difficult to negotiate with sexual partners with regard to practising safer sex because of gender imbalances in sexual decision-making. Many women fear emotional and physical abuse as well as abandonment if they disclose their status to their partner (UNAIDS, 2001d).

59. The use of contraceptive methods other than condoms does not seem to increase in the context of HIV infection and might even decline. For example, studies conducted in the Democratic Republic of the Congo and Rwanda found that use of hormonal contraceptive methods, the primary methods used in sub-Saharan Africa, declined in response to knowledge of seropositive status (United Nations, 2002a). Some of this decline may be accounted for by a switch to condoms.

60. Women do appear to desire smaller families after HIV infection is confirmed. Although some studies revealed that the desire to continue childbearing remains paramount, a more common finding in recent studies is the emergence of doubts about continuing reproduction after HIV infection is confirmed (Ntozi, 2002; United Nations, 2002a). Worries about exacerbating the disease with further pregnancies, transmitting the disease to spouses and prospective children, and leaving orphans behind for others to look after are the main reasons expressed for wanting to stop childbearing.

61. It is becoming widely known that breastfeeding can transmit the HIV virus from mother to child. Thus, HIV-positive women may wish to refrain from breastfeeding when replacement feeding is acceptable, feasible, affordable, sustainable and safe (WHO, UNAIDS and UNICEF, 2004). There is now some evidence that HIV/AIDS has been responsible for a decrease in the extent to which women breastfeed. In Manicaland, Zimbabwe, where two thirds of the women in the study knew that breastfeeding was a mode of HIV transmission, women who were aware of the mother-to-child transmission of HIV through breastfeeding were less likely to have breastfed recent infants (Gregson and others, 1997). A decline in

breastfeeding makes it more likely that another pregnancy will occur sooner, unless women start to use effective contraception shortly after the birth.

62. Evidence from a few countries indicates that women who are HIV-positive are relatively more likely to terminate their pregnancies. Studies conducted in Australia, France and Italy show that the proportion of pregnancies voluntarily terminated was significantly higher among HIV-positive women, after diagnosis of infection, than among HIV-negative women (cited in Ntozi, 2002). Fears of mother-to-child transmission and of faster progression of the disease might explain the higher termination rates among HIV-positive women.

## Effects among persons not infected with HIV

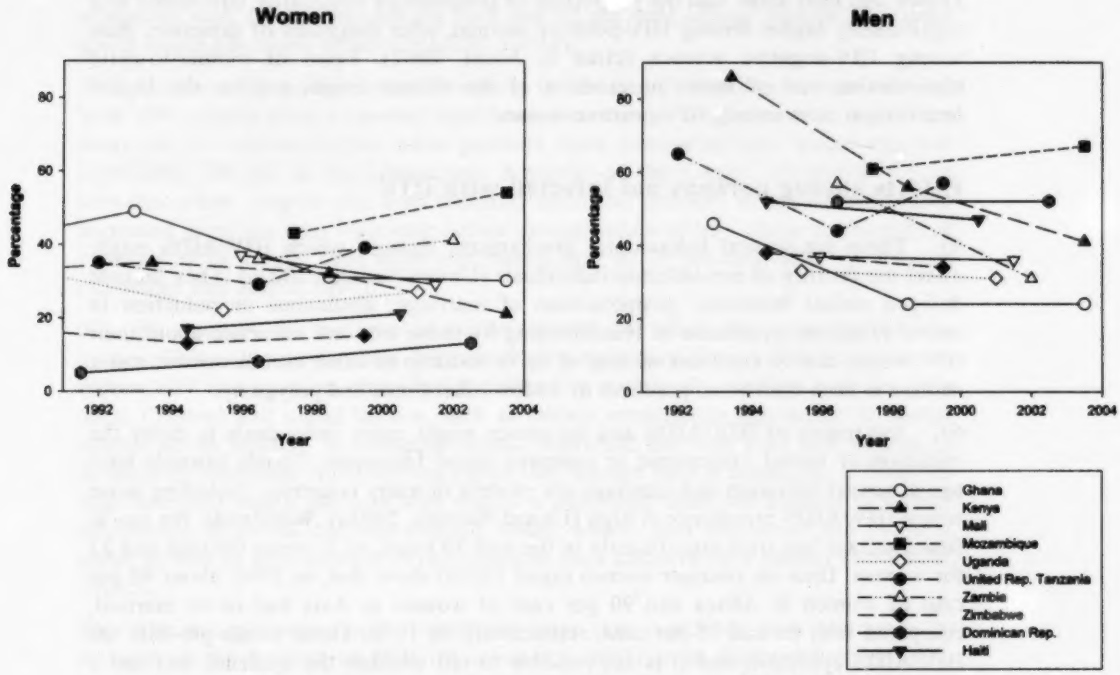
63. There are several behavioural mechanisms through which HIV/AIDS might affect the fertility of non-infected individuals (United Nations, 2002a). They include delayed sexual initiation; postponement of marriage; abstinence or reduction in sexual relations; avoidance of breastfeeding by those who are uncertain about their HIV status; use of condoms instead of or in addition to other contraception; and a decline in such traditional practices as widow inheritance and polygamy.

64. Awareness of HIV/AIDS and its causes might cause individuals to delay the initiation of sexual intercourse or postpone union formation. Trends towards later age at sexual initiation and marriage are evident in many countries, including those where HIV/AIDS prevalence is high (United Nations, 2003a). Worldwide, the age at first marriage has risen significantly in the past 30 years, to 27 years for men and 23 for women. Data on younger women (aged 15-19) show that, in 2000, about 80 per cent of women in Africa and 90 per cent of women in Asia had never married, compared with 65 and 75 per cent, respectively, in 1970. These trends pre-date the HIV/AIDS epidemic, and it is not possible to tell whether the epidemic has had a separate influence on the trend.

65. Recent surveys show a trend towards a decrease in premarital sexual relations among young adults in some countries, especially for men, but little change in others (figure V). Large declines in premarital sex are evident for men and women in Ghana and Kenya, and for men in Zambia.

Figure V
**Trends in premarital sex, selected countries and years**

*(Of never-married persons aged 15-24, the proportion who had sexual relations in the last year)*



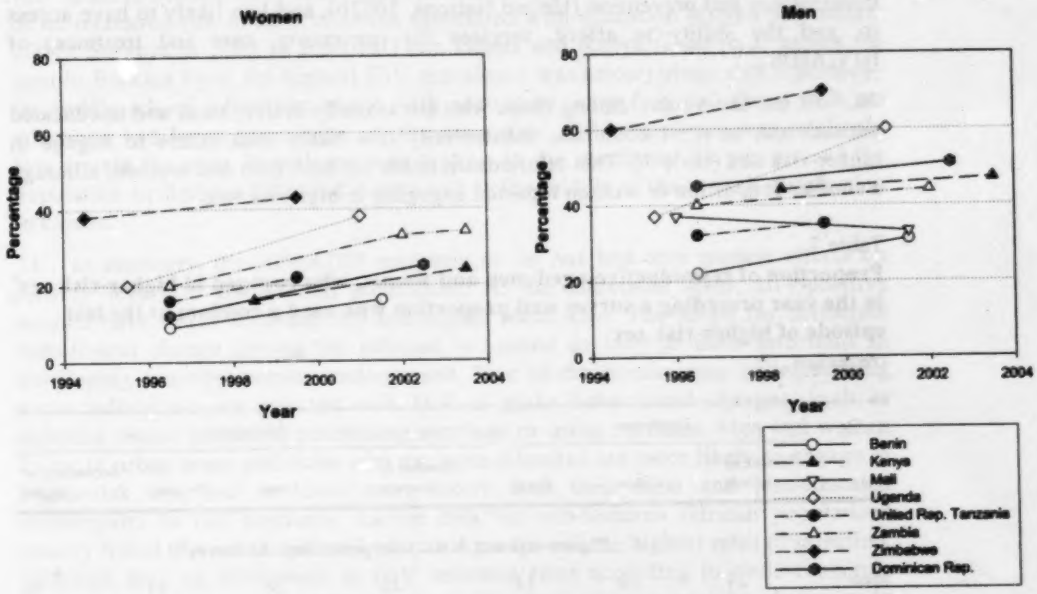

*Source*: ORC Macro: Measure/DHS HIV/AIDS Survey Indicators Database, available from www.measuredhs.com/hivdata (accessed 4 January 2005).

66. Within marriage, the response of a non-infected partner may be to have less frequent sexual relations with the infected partner. One study in Nigeria reported that women were breaking off marriages, refusing to engage in sex with their husband or engaging in sex only when he used a condom, when the husband was HIV-infected (Orubuloye, Caldwell and Caldwell, 1992). To avoid infection, some people may choose to separate from spouses who have other sexual partners. Another potential effect on fertility is exerted through lower rates of remarriage following widowhood or divorce. In Uganda and Zimbabwe, there are reports that HIV/AIDS has reduced the likelihood of remarriage for AIDS widows (United Nations, 2002a).

67. Condom use is on the rise in many countries with high HIV prevalence. Recent surveys show substantial increases in condom use outside of marital unions (figure VI). Still, in most of the countries, over half of those engaging in higher-risk sex did not use a condom during the most recent episode. In most countries, condoms are reported as the current contraceptive method by only a small proportion of married women of reproductive age, usually under 5 per cent. Nevertheless, the latest surveys show an increase in condom use within marriage, from levels that were typically close to zero as recently as the early 1990s.

Figure VI

**Trends in condom use at last episode of higher-risk sex:* women and men aged 15-49, selected countries, 1994-2004**




* The number of persons who used a condom the last time they had sex with anyone apart from a spouse or cohabiting partner, as a proportion of those who had sex with such a partner in the last 12 months; in Zimbabwe in 1994, based on sexual activity in the last four weeks.

*Source:* ORC Macro (2004): Measure/DHS HIV/AIDS Survey Indicators Database (http://www.measuredhs.com/hivdata).

## Unsafe sexual behaviour, HIV/AIDS and socio-economic status

68. Most studies conducted in developing countries in the 1980s and early 1990s found that HIV prevalence was higher among the higher socio-economic groups than in the broader population (World Bank, 1999; Hargreaves and Glynn, 2002). Many analysts have speculated that, over time, the tendency for infection rates to be higher among the more educated would disappear, and that HIV infection would eventually become relatively more common among the poor. This expectation is based on the observation that, early in the epidemic, knowledge about HIV transmission and prevention was limited, so that "the protective advantages that higher education and income would normally provide — a greater ability to learn about HIV prevention and more resources to purchase condoms or take other steps to avoid infection — did not come into play" (World Bank, 1999). Over time, as knowledge of how to avoid infection became available, the better educated and more affluent were expected to become better able to avoid infection, thereby eventually reversing the social patterns observed earlier. Such a trend was evident in some developed countries and in selected population groups in some other countries, including Brazil and Thailand (ibid.).

69. Recent data show that rural and uneducated youth and adults of both sexes — groups that tend to be relatively poor — are relatively less likely to use c ms when they engage in higher-risk sex — that is to say, sex with a non-marital, non-cohabiting partner (table 7). They are also more poorly informed about HIV transmission and prevention (United Nations, 2002b), and less likely to have access to, and the ability to afford, services for prevention, care and treatment of HIV/AIDS.

70. At the same time, among those who are sexually active, rural and uneducated persons are, in most countries, substantially less likely than others to engage in higher-risk sex (table 7). This relationship holds for both men and women, although a smaller proportion of women reported engaging in high-risk sex.

Table 7

**Proportion of reproductive-aged men and women who engaged in higher-risk sex[a] in the year preceding a survey and proportion who used a condom at the last episode of higher-risk sex**

(Percentage)

| | *Residence* | | | *Education* | | | |
|---|---|---|---|---|---|---|---|
| | *Number of surveys* | *Urban* | *Rural* | *Number of surveys* | *None* | *Primary* | *Secondary or higher* |
| | | | *A. Higher-risk sex in the year preceding the survey[b]* | | | | |
| Men | 24 | 48 | 34 | 22 | 26 | 41 | 50 |
| Women | 26 | 23 | 12 | 24 | 9 | 18 | 31 |
| | | | *B. Condom use at last episode of higher-risk sex[c]* | | | | |
| Men | 23 | 55 | 36 | 18 | 22 | 36 | 57 |
| Women | 23 | 32 | 16 | 22 | 10 | 19 | 37 |

*Source*: ORC Macro (2004): Measure/DHS HIV/AIDS Survey Indicators Database, available from www.measuredhs.com/hivdata (accessed 4 January 2005).

*Note*: Percentages shown are averages based on Demographic and Health Surveys in developing countries highly affected by the HIV/AIDS epidemic. Data are from the most recent survey in each country.

[a] Defined as sex with a non-marital, non-cohabiting partner.

[b] Based on respondents reporting sexual activity in the last 12 months.

[c] Based on respondents reporting sexual activity with a non-marital, non-cohabiting partner in the last 12 months.

71. Thus, better-educated and urban residents are more likely to engage in high-risk sex but are also more likely to use condoms for protection. The net effect of these opposing influences on HIV transmission is unclear.

72. New evidence about patterns of HIV infection within different socio-economic groups is more limited than information about sexual behaviour and condom use. In most countries, rates of HIV infection remain higher in urban than in rural areas. Community-based studies in African countries indicate that HIV prevalence in urban areas is about twice as high as in rural areas (UNAIDS, 2004b). With regard to differences by education, there is evidence that the patterns are indeed changing in at least some settings. In the United Republic of Tanzania, there was little change

between 1987 and 1996 in the association between HIV prevalence and education, but trend data showed greater decreases in HIV prevalence among the educated in Thailand, Uganda and Zambia (Hargreaves and Glynn, 2002).

73. Studies conducted in four African cities during 1997-1998 found no evidence of an increased risk of HIV infection associated with education (Glynn and others, 2004). Surveys in 2003 in Burkina Faso, Ghana and Kenya found that, except for men in Burkina Faso, the highest HIV prevalence was among those with a primary- or middle-school education; those with secondary schooling and those with no education had lower prevalence. At the same time, HIV prevalence was relatively low among the poor. Prevalence was highest in the wealthiest 20 per cent of the population in Burkina Faso and Kenya and in the middle of the wealth distribution in Ghana.

74. In summary, the HIV/AIDS epidemic so far has had only modest effects on fertility levels of the general population. At the individual level, HIV-positive women have lower fecundability and higher foetal loss. The scope for deliberate behavioural change among the infected is limited so long as most infections in developing countries remain undiagnosed. Fear of the disease may be influencing some individuals not infected with HIV to make behavioural changes, such as delaying sexual initiation, postponing marriage or using condoms. Men and women living in urban areas and those who are more educated are more likely to engage in higher-risk sex, but are also more likely than their rural and less-educated counterparts to use condoms. Earlier data for sub-Saharan African populations usually found that urban and well-educated groups had the highest rates of infection. Although data on differences in HIV infection rates according to socio-economic characteristics are sparse, there are signs that these patterns may be changing. In some countries, those with primary education now have higher HIV prevalence than those with more or less education. In most cases, infection rates remain higher in urban than in rural areas.

## V. Geographical mobility

75. The interrelations between the spread of HIV/AIDS and geographical mobility are complex. As with most epidemics, the geographical spread of HIV is greatly affected by the movement of infected persons, but the infection itself may hinder such movement or may deter the arrival of migrants in places with high prevalence. The mobility of uninfected persons may also influence the course of the epidemic, especially the emigration of health personnel.

### HIV/AIDS and geographical mobility

76. Most studies on the impact of spatial mobility on the spread of HIV refer to sub-Saharan Africa, although recent research has also focused on Asian countries, mainly China and India. The mobility of young adults, often travelling alone, is implicated in the higher prevalence of HIV/AIDS in urban areas. The focus of research has been on the role of certain mobile populations — truck drivers, seasonal migrant workers, itinerant traders, commercial sex workers and military personnel — in the spread of HIV along established transportation routes and in regions experiencing high mobility (Lidyé and Robinson, 1998; Pickering and

Nunn, 1997). Conflict and ensuing population displacement have also been the focus of attention (UNAIDS, 2004b).

77. A majority of research studies have concluded that mobile persons are at a higher risk of being infected than those who do not move, regardless of overall prevalence levels at origin or destination, because mobility is associated with behaviours that increase exposure to infection. Those behaviours are related to predisposing characteristics (young persons are more mobile than older persons and risk-taking behaviour is common among the young); changes in individual or family characteristics due to mobility; and exposure to new environments.

78. Mobility often separates couples. Individuals who often spend time away from their spouses or regular partners are more likely to have other sexual partners, engage in casual sex, and be HIV-positive than persons who leave home rarely or never (Lidyé and others, 2004; Lagarde and others, 2003). Circular mobility or migration, involving frequent or regular stays at home, puts people at risk of infection at both ends of the move. In particular, migrant men returning from urban to rural areas have been implicated in the rural spread of HIV in sub-Saharan Africa (Pison and others, 1993; Lurie and others, 2003). Yet the direction of transmission is not only from mobile men to women: in nearly one third of the cases covered by a study in South Africa, infection had been passed on by non-mobile women in rural areas to their mobile partners (Lurie and others, 2003).

79. Rural-to-urban mobility implies that individuals moving on their own no longer fall under the traditional community norms concerning sexual behaviour and may find themselves in an environment conducive to high-risk behaviour (Decosas and others, 1995). The preponderance of young adult men among mobile populations, such as agricultural workers and miners, increases the likelihood of risky sexual behaviour. The concentration of male migrant workers, isolated from normal family life, increases the demand for commercial sex and facilitates the spread of HIV (Hunt, 1989). In China, studies conducted in selected provinces indicate that migrants are overrepresented among patients with sexually transmitted diseases and HIV/AIDS (Yang, 2004). Little is known of the mechanisms that put migrants at higher risk of infection in China, although research suggests that the likelihood of drug use, and intravenous drug use in particular, is greater among migrants than among non-migrants.

80. Research on the social and behavioural mechanisms that put mobile individuals at risk of infection has produced valuable insights for the implementation of prevention strategies. However, research findings are still limited in scope, focusing mostly on rural-to-urban mobility in sub-Saharan Africa. While a majority of the case studies available have found that mobile individuals are at higher risk of HIV infection, it is also conceivable that in some cases mobility may reduce that risk by increasing exposure to information, new practices, better services and care. In Senegal, Uganda and the United Republic of Tanzania, for instance, mobile individuals were more likely to report condom use than their non-mobile counterparts (Morris and others, 2000; Lagarde and others, 2003). Exposure to new environments need not lead to riskier behaviour if adequate support networks are in place.

81. In addition, studies on mobile populations tend to make no distinction in terms of length of stay at destination or reason for moving. Yet mobile individuals are heterogeneous, with some travelling sporadically for short periods and others

migrating for extended periods or permanently. Geographically, some persons move within a country, others internationally. Depending on the length of stay at destination and on whether migrants move with or without their immediate relatives, their risk of infection may vary markedly.

82. In some studies, the way of defining the mobile population of interest predetermines its higher risk of infection. Thus, for the purpose of study, migrants are often defined as individuals who have spent time away from home. Yet, neither mobility nor migration per se necessarily entails the separation of couples. In Kenya in 1993, women in urban areas who had resided in another community for at least six months were more likely to be living with their husbands or partners than women who had never moved (Brockerhoff and Biddlecom, 1999). Furthermore, women who had moved from other urban areas were less likely to engage in high-risk sexual behaviour than urban women who had never moved. In contrast, men who had migrated between urban areas were almost twice as likely to engage in high-risk sexual behaviour as their non-migrant counterparts. The opposite was observed in rural areas: women who had migrated between rural areas exhibited higher-risk behaviours than those who had not, but this was not the case for men who had migrated between rural areas. In other words, mobility per se was not a determinant of high-risk behaviour.

## Policies on international travel and HIV/AIDS

83. In 2003, at least 60 countries required HIV testing from all or certain groups of prospective travellers seeking admission (United States Department of State, 2003). An inquiry conducted among 144 countries during 1999-2002 indicated that 104 of them had imposed some kind of HIV-related travel restrictions (Deutsche AIDS-Hilfe, 2002). The scope of these restrictions varies. Fourteen countries prohibit the entry of any person living with HIV/AIDS, whether a tourist or a migrant, or authorize the deportation of a foreigner who is found to be HIV-positive. However, restrictions usually apply to the admission of HIV-positive persons who seek admission for more than three months (or 30 days, in some cases). Most countries require that persons applying for residence prove that they are HIV-negative. Some countries screen selected groups of migrants only. For instance, Bahrain requires HIV tests from migrant workers in the food industry and in health care or childcare; Malaysia screens unskilled migrant workers; South Africa requires HIV tests for foreign mine workers. Although the United Kingdom of Great Britain and Northern Ireland does not deny entry to HIV-positive persons, any person who seems unwell at the port of entry may be tested and denied admission if found to be infected with HIV (ibid.).

84. The main reasons given for imposing such travel restrictions have been to protect public health and to avoid the imposition by HIV-positive foreigners of undue burdens on the health-care systems of receiving countries. The fear of an undue burden on the health-care system has gained weight with the availability of effective treatments for HIV/AIDS, which are still largely unavailable in developing countries. However, travel restrictions may not be effective in keeping out those who can increase the burden imposed on a receiving country. HIV-positive foreigners may have the means of paying for health care and may not be entitled to free medical care. In a joint statement on HIV-related travel restrictions, UNAIDS and the International Organization for Migration (2004) recommended that, in

respect of deciding whether to deny admission to an international migrant, considerations based on the potential costs of health care and social assistance should be examined on an individual basis, and should include an assessment of whether the person concerned would require such services, how soon they might be needed, and whether the person could cover the cost either directly or indirectly through economic and social contributions. UNAIDS and IOM recommend that restrictions on entry or stay based on health conditions, including HIV/AIDS, be implemented in such a way as to ensure that human rights obligations, encompassing the principle of non-discrimination, the non-refoulement of refugees, the right to privacy, and the protection of the family, the rights of migrants and the best interests of children, are all met (ibid.).

85. In summary, mobility can be linked to behaviour that increases the risk of HIV infection. Research suggests that certain mobile populations are at higher risk of infection than sedentary ones. However, exposure to new environments need not lead to risky behaviour, particularly if families are not separated. At the international level, most countries impose restrictions on the admission of HIV-positive foreigners who intend to remain in the country for extended periods of time, usually three months or longer.

# VI. HIV/AIDS, development and poverty

86. Since its onset in the early 1980s, the HIV/AIDS epidemic has affected every sector of society and, in countries with high HIV/AIDS prevalence, erased decades of progress in combating mortality. Because the disease strikes young adults in their most productive years, it has a particularly destructive effect on families and households and on the long-term economic development of a country.

## Impact on households and families

87. Households and families bear most of the burden of HIV/AIDS because they are the primary units for coping with the disease and its consequences. Studies show that if the infected person is the breadwinner, the family suffers financially, from both loss of earnings and increased expenditure for medical care (United Nations, 2004a). During the long period of illness and after the death of the victim, lack of income and the cost of care can force households to spend their savings, sell their productive assets and borrow money. AIDS-affected households often make a rapid transition into poverty. In Rakai, Uganda, AIDS-affected households were much less likely to own durable goods than non-affected households, especially if the victim was male (Menon and others, 1998). Booysen (2003) found that in South Africa, households that had experienced a recent death were twice as likely to be poor as non-affected households, and poverty was more likely to be chronic. Studies document reduced levels of consumption in AIDS-affected households, including reduced food consumption, sometimes resulting in malnutrition (United Nations, 2004a).

88. Research has indicated that deaths of adults, particularly parents, often cause households to break up, with children being sent to live with relatives or even becoming homeless. "Skipped generation" households — comprising grandparents

and grandchildren without the middle generation — are becoming more common in countries heavily impacted by AIDS (United Nations, 2004a).

89. Studies have found lower school enrolment among children from AIDS-affected households (United Nations, 2004a). Children often dropped out of school because their families had no money for school fees or needed the children's labour at home. In the United Republic of Tanzania, this was found to be particularly true when the AIDS victim was the mother. Children tended to assume the domestic roles of the mother and left school to do so (Ainsworth, 1993).

90. Recent studies have examined the relative welfare of AIDS orphans by comparing them with non-orphans in the same society. Most studies have shown that orphans are at a substantial educational and nutritional disadvantage, particularly if they have lost both parents or live in a poor household (United Nations, 2004a). Fostering orphans is a common cultural practice, especially in African societies, but the rapid rise in the number of orphans is overwhelming the traditional support system of the extended family. In many AIDS-affected countries, older persons are taking care of orphaned grandchildren, and they may also provide end-stage care to their afflicted adult children. Many have no access to social welfare or pension income. The AIDS epidemic not only adds stress to the lives of older persons, but also impoverishes them just when they themselves need support (ibid.).

## Impact on agriculture and food security

91. Most of the people in the countries severely affected by HIV/AIDS live in rural areas. In many African countries, farming and other rural occupations provide a livelihood for more than 70 per cent of the population. The AIDS epidemic is particularly damaging to the agriculture sector in countries that rely heavily on manpower for production. The Food and Agriculture Organization of the United Nations (FAO) has estimated that in the 27 most affected countries in Africa, 7 million agricultural workers died from AIDS between 1985 and 2000 and 16 million more deaths are likely to occur in the next two decades (Food and Agriculture Organization of the United Nations, 2001). In the 10 most affected African countries, the agricultural labour force will decline between 11 and 26 per cent by 2020.

92. The loss of labour from AIDS-related illnesses and deaths reduces the amount of land that can be cultivated, resulting in lower food production and food insecurity (Food and Agriculture Organization of the United Nations, 1997). For instance, a survey in Zimbabwe showed that agricultural output in communal areas had declined by nearly 50 per cent among households affected by AIDS (Kwaramba, 1997).

93. In many high-prevalence countries, the agriculture sector was already under stress before the onset of the AIDS epidemic, from desertification and neglect of the traditional farming sector. FAO (2001) observed that the HIV/AIDS epidemic was intensifying labour bottlenecks in agriculture; increasing malnutrition; and adding to the burden of rural women, especially those who headed farm households.

## Impact on the labour force

94. HIV/AIDS reduces the stock of skills and experience of the labour force, and this loss in human capital makes it more difficult to attain goals for poverty eradication and sustainable development (International Labour Organization, 2004). The business sector is particularly vulnerable to the impact of the HIV/AIDS epidemic, since so many victims of AIDS are of working age. The illness that precedes AIDS-related deaths reduces the productivity of otherwise economically active men and women. Businesses face increased costs for health and death benefits and for training new workers.

95. HIV/AIDS has also affected governmental capacity. A study on human resources in Malawi showed that the country's annual loss of governmental staff had risen almost sixfold between 1990 and 2000, primarily owing to premature deaths from AIDS (Malawi Institute of Management, 2002).

## Impact on the health and education sectors

96. The HIV/AIDS epidemic poses tremendous challenges to the public sector, particularly health-care and education systems, both of which are areas of human capital investment i ·ortant to a nation's future economic development. HIV/AIDS increases overall health and education expenditures at the same time that it is claiming the lives of doctors, teachers and nurses in severely affected countries. The lack of funds and the loss of education and health professionals create the possibility that the next generation will be less well educated and less healthy than the previous one.

97. The health sector is crucially involved both in dealing with the victims of HIV/AIDS and in preventing further transmission of the virus. The disease generates increased demand for health services for infected persons with AIDS-related opportunistic illnesses. At the same time, it reduces the number and productivity of health-care workers, who become ill and die of AIDS. A study of deaths of government health-care employees in Africa estimated that AIDS had been the cause of between 19 and 53 per cent of all deaths (UNAIDS, 2004a). Moreover, as funds are diverted towards combating HIV/AIDS, other health needs are being neglected, thus compromising the health of the whole society.

98. HIV/AIDS is also eroding the gains that have been made towards achieving universal primary education. AIDS weakens educational systems and keeps children from affected families from attending school (Monasch and Snoad, 2003). The impact of HIV/AIDS on the education sector is measured by three main indicators: the availability of teachers, the number of children enrolled in school, and the quality of education. Studies conducted by the United Nations Children's Fund (UNICEF) (2000) found an emerging shortage of teachers, as well as higher absenteeism and lower productivity, caused by AIDS. In Zambia, for example, the number of teacher deaths in 1998 was equivalent to about two thirds of the annual output of new teachers.

99. HIV/AIDS also lowers enrolments. Families that have suffered the loss of a parent are less able to pay school fees and more likely to need children's labour at home. The quality of education suffers as teachers lost to AIDS are replaced by less-

qualified and less-experienced teachers. The most long-lasting and crippling legacy of the HIV/AIDS epidemic may well be the loss of schooling of future generations.

### Impact on the economy and development

100. The HIV/AIDS epidemic burdens the economy of any country. This is especially true for those weak economies that are generally characteristic of countries with high HIV prevalence. A number of efforts have been made to model the impact of HIV/AIDS on economic growth (United Nations, 2004a). In some cases, estimates of the economic impact of HIV/AIDS have been "small", whereas in others, annual reductions in economic growth of from 2 to 4 percentage points of gross domestic product (GDP) (compared with a hypothetical "no-AIDS" situation) have been found. Beyond its effects on GDP, the HIV/AIDS epidemic is likely to increase income inequality and poverty. However, it is difficult to isolate the effect of HIV/AIDS on a country's economy because so many other factors — for example, war, natural disasters, poor economic management and fiscal policy — affect long-term economic growth.

101. In the long run, the effects on the economy may be more serious than most economic analyses suggest. Estimates of the impact of AIDS usually do not take into account the loss of "social capital" or the long-term damage accruing to human capital as a consequence of HIV/AIDS. The effects of lowered investment in the human capital of younger generations will affect economic performance over future decades, well beyond the time frame of most economic analyses (Bell, Devarajan and Gersbach, 2003).

102. Many studies deal only with quantifiable economic effects of the HIV/AIDS epidemic, but the concept of "development" implies more than material advancement. A nation's achievement of a long and healthy life for its population is one of the main defining features of successful development. The epidemic's effect on mortality itself represents a loss of welfare that dwarfs the estimated effects of HIV/AIDS on GDP (Jamison, Sachs and Wang, 2001).

103. In summary, the HIV/AIDS epidemic touches every sector of society. Studies show that HIV/AIDS changes and impoverishes households and weakens inter-generational support systems. It causes a reduction in agricultural production, which leads to food insecurity; it strains health-care resources; it erodes educational progress; and it diminishes the labour force and increases costs for businesses. HIV/AIDS reduces investment in human capital and has profound and long-lasting effects on a country's social and economic development.

## VII. Government views and policies

104. The AIDS epidemic has prompted an unprecedented array of global, regional and national responses. The urgency of a concerted response was recognized in the United Nations Millennium Declaration (see General Assembly resolution 55/2, para. 19), which expressed the resolve of Governments to halt and reverse the spread of the epidemic by 2015. This resolve was reiterated in the Declaration of Commitment on HIV/AIDS adopted by the Assembly at its twenty-sixth special

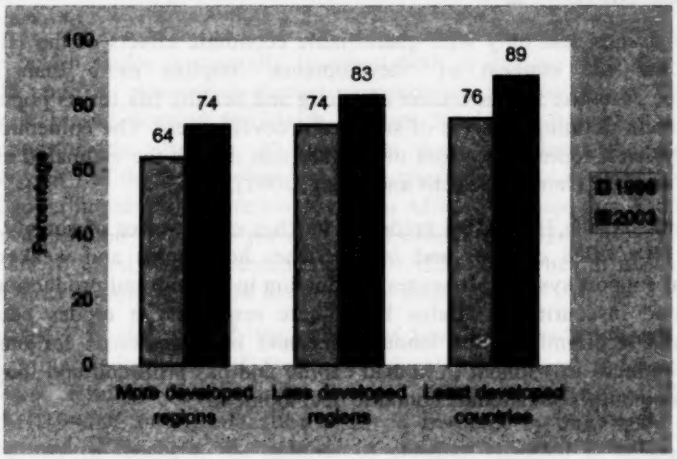
session on HIV/AIDS in 2001, which acknowledged that prevention of HIV/AIDS must be the mainstay of responses to the epidemic.

105. Although Governments had begun formulating policies concerning HIV/AIDS by the mid-1980s, these policies were frequently fragmented and had a narrow health-sector focus. This contrasts sharply with the current situation which is characterized by comprehensive policies and programmes in many countries. Forthright national leadership, combined with public awareness and intensive prevention efforts, has resulted in some notable successes.

## Evolution of HIV/AIDS as a major national concern

106. Concern over HIV/AIDS ranks high in the population policy agenda of the large majority of countries in the world (United Nations, 2004b). As of 2003, 80 per cent of countries reported that HIV/AIDS was a major concern (figure VII). The degree of concern is also closely related to the level of development. While three quarters of countries in more developed regions have expressed major concerns over the epidemic, nearly 90 per cent of the least developed countries have done so.

Figure VII
**Proportion of Governments reporting major concern about HIV/AIDS in the more and less developed regions and among the least developed countries, 1996 and 2003**




*Source: World Population Policies, 2003* (United Nations publication, Sales No. E.04.XIII.3).

107. However, HIV and AIDS were not initially seen by many countries as a national threat and major concern. From the mid-1980s to the later part of the decade, the epidemic was still in its infancy, and only about one quarter of the world's countries reported major concerns with respect to the relatively small number of AIDS cases (United Nations, 1990). This period was marked by a lack of

recognition or by widespread denial. Although concern with HIV/AIDS is now near universal, national concerns vary in nature and degree. Countries and regions have exhibited considerable diversity in their responses to the epidemic. Currently, about 90 per cent of countries in Latin America and the Caribbean and in Africa recognize HIV/AIDS as a major concern, compared with four fifths of countries in Oceania and about 70 per cent of countries in Asia and in Europe and North America.

108. The speed of the epidemic's spread has had a major influence on Governments' views. Among African countries, which are the most severely affected, the epidemic is considered to be an urgent priority. In contrast, in low-prevalence countries such as Australia, Denmark and Finland, in addition to concerns about their own national experiences, major concerns are also often articulated in terms of the epidemic's impact on other countries.

## HIV/AIDS prevention and treatment strategies

109. Most Governments have implemented programmes that focus on HIV/AIDS prevention. Comprehensive prevention programmes include a range of strategies, such as information, education and communication (IEC) campaigns; programmes to modify sexual behaviour; condom promotion; voluntary counselling and testing; ensuring blood safety; and targeting high-risk groups (sex workers and injecting drug users) and vulnerable groups (young people and pregnant women). In addition, some 60 countries have imposed mandatory AIDS testing for immigrants, which, from a human rights perspective, constitutes one of the most contentious responses (UNAIDS and International Organization for Migration, 2004). The most widespread programmes are IEC campaigns, blood screening, testing and counselling, condom promotion and notification/case reporting (see table 8). Experience indicates that national programmes are most effective when an appropriate combination of programmatic interventions is tailored to the specific risk factors and situations of a country. In Brazil, Thailand and Uganda, for example, very different but highly effective responses to the epidemic were implemented (United Nations, 2003b). A key issue, however, remains concerning how to ensure that programmes are accessible to those in need. A recent survey revealed that in many countries only a small proportion of those at risk had adequate access to basic prevention services (UNAIDS, 2004b).

110. Better individual knowledge of HIV/AIDS and its prevention can complement and enhance the effectiveness of government policies and programmes. Poorly educated persons, for example, know less about HIV/AIDS and are less likely to use condoms. Thus, they are more vulnerable to infection (United Nations, 2002b). Furthermore, even when women are knowledgeable about HIV/AIDS, they are frequently powerless to choose abstinence or protected sex. Recognizing this, many Governments are raising public awareness by promoting IEC programmes through various channels, including print media, theatre, radio, direct mailings and other public service messages. Non-governmental organizations, networks of people living with AIDS, religious institutions and international and bilateral donors are essential participants in IEC activities.

111. Much remains to be done to improve the effectiveness of government strategies, as gaps exist in knowledge levels among segments of the population. While surveys reveal that the level of AIDS awareness is high in countries with

severe epidemics, risky behaviour often persists (United Nations, 2002b). The ABC strategy of abstinence, being faithful (partner reduction) and correct and consistent use of condoms has become a key component of programmes to modify sexual behaviour. In Uganda, the ABC strategy was pivotal in the Government's efforts to reduce the prevalence of HIV. In an innovative project under way in Zimbabwe, young women are being offered vocational and other training, loans and employment in order to shield them from sexual relationships with older men who provide support in exchange for sex (United Nations Population Fund, 2004). Partner reduction is a critical component of strategies to reduce risky behaviour and has contributed to notable declines in HIV-infection rates in several countries, for example, Cambodia, the Dominican Republic and Ethiopia.

112. About 90 per cent of countries report having programmes to promote condom use (table 8). While most countries in Africa promote condom use, many countries acknowledge difficulties in reaching the target population. Despite remarkable improvements in condom provision, a number of constraints exist, such as persistent supply shortages (UNAIDS, 2004b). Non-governmental organization-sponsored condom social marketing programmes for the poor are common in many countries and continue to be the predominant source of condoms in several countries. Some Governments hesitate to actively promote condom use, especially outside marriage, for fear of encouraging sexual activity. In some countries, programmes do not distribute condoms to adolescents. Although condoms are much more likely to be used in sexual relations outside marriage than in relations between married partners, many married persons, especially women, continue to acquire HIV from their spouses.

Table 8
**Distribution of countries according to the implementation of HIV/AIDS policies: the world and major areas, 2004**

| *Region* | *Total number of countries* | *Information/ education campaigns* | *Blood screening* | *Testing and counselling* | *Promoting condom use* | *Notification/ case reporting* | *Access to antiretroviral treatment* |
|---|---|---|---|---|---|---|---|
| World | 82 | 77 | 76 | 75 | 73 | 73 | 68 |
| More developed regions | 28 | 25 | 25 | 25 | 24 | 25 | 25 |
| Less developed regions | 54 | 52 | 51 | 50 | 49 | 48 | 43 |
| Least developed countries | 12 | 12 | 12 | 12 | 12 | 10 | 9 |
| Africa | 15 | 15 | 15 | 15 | 15 | 12 | 14 |
| Asia | 27 | 26 | 26 | 25 | 25 | 25 | 19 |
| Europe | 24 | 21 | 21 | 21 | 20 | 21 | 21 |
| Latin America and the Caribbean | 12 | 11 | 10 | 10 | 9 | 11 | 11 |
| Northern America | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Oceania | 3 | 3 | 3 | 3 | 3 | 3 | 2 |

*Source*: Population Policy Databank maintained by the Population Division, Department of Economic and Social Affairs, of the United Nations Secretariat.

113. AIDS-related stigma and discrimination significantly hamper the effectiveness of AIDS responses. The human rights needs of those infected encompass both legal protection from discriminatory practices and the removal of barriers to adequate health care. By 2004, 38 per cent of countries had not adopted AIDS-related anti-discrimination legislation, while one third of countries lacked policies to ensure women's equal access to critical prevention and care services (UNAIDS, 2004b).

114. Contaminated blood transfusion is one of the most preventable sources of HIV infection. Fifteen years after the development of a screening test for HIV, reducing transmission of HIV and other infectious diseases by blood transfusion remains a serious public-health challenge, especially in developing countries (Centers for Disease Control and Prevention, National Center for HIV, STD and TB Prevention, 2004). By 2004, many countries had undertaken blood screening for the HIV virus. Efforts to ensure the safety of the national blood supply have improved, while a number of countries have expanded screening so as to cover a larger share of the blood supply. National blood policies differ in coverage and comprehensiveness. For example, the share of transfused blood that is tested and the accuracy of testing procedures vary from country to country. In some cases, only blood from national blood banks or blood donated voluntarily is screened. Yet, blood shortages often force hospitals to resort to paid donors or family members of patients who are transfused on an emergency basis.

115. Prevention efforts have also targeted mother-to-child transmission of HIV. Activities undertaken to eliminate this channel of transmission include HIV prevention services for women of childbearing age, voluntary counselling and testing for pregnant women, comprehensive reproductive health services and antiretroviral prophylaxis (see sect. VIII). However, progress in expanding access to antiretroviral prevention has so far been limited, with only 10 per cent of pregnant women being offered this treatment (UNAIDS, 2004b).

116. Although antiretroviral treatment has significantly prolonged life and reduced the suffering of AIDS victims, access to antiretroviral treatment remains extremely low. While concerted international and national efforts have slashed the price of these medicines, treatment remains beyond the reach of most victims in developing countries. Furthermore, the growing availability of HIV therapies must not lead to a neglect of prevention efforts, which would produce an increase in new HIV infections.

## Multisectoral strategies and partnerships

117. As HIV/AIDS impacts on all aspects of a country's socio-economic development, mainstreaming HIV/AIDS in development planning is a key strategy. Both the Millennium Development Goals and the 2001 Declaration of Commitment on HIV/AIDS call for the eradication of poverty. However, by 2004, in only 56 per cent of the countries surveyed in Africa had the national AIDS commission participated in preparing the poverty reduction strategy (UNAIDS, 2004b).

118. Countries are increasingly incorporating HIV/AIDS into multisectoral national strategic plans. By the end of 2002, 102 countries had formulated national strategic plans for HIV/AIDS (United Nations, 2003b). Many other countries have moved away from considering HIV/AIDS in purely medical terms to viewing it as a larger development issue requiring the involvement of all sectors. However, progress

towards formulating a multisectoral AIDS strategy has been slow in some countries. Furthermore, the fact that the roles of the ministries of health and national AIDS councils are poorly defined in terms of their respective purviews has caused confusion and conflict in many countries (UNAIDS, 2004b).

119. With multiple actors addressing the HIV/AIDS epidemic, the value of establishing national bodies to coordinate policy development and programme implementation is widely recognized. Initially, these bodies often were in ministries of health and had limited authority and poorly defined mandates. A recent development has been the creation of governmental bodies specifically charged with coordinating national HIV/AIDS programmes. These coordination bodies are often placed in the office of the head of State, and are thus more likely to have a higher profile. However, because of insufficient or inappropriate resource allocation, the increase in the number of coordinating bodies has not always translated into efficient and concerted actions (UNAIDS, 2004b).

120. Governments have increasingly recognized that the AIDS epidemic can effectively be fought only with the active partnerships of civil society, those living with HIV/AIDS, community-based groups, non-governmental organizations and the private sector. Despite their often precarious funding, non-governmental organizations and community-based groups play a major role in the national response to AIDS in many countries, especially in the developing world. In many countries, non-governmental organizations are providing basic prevention, education and care for HIV/AIDS patients and, in some instances, are making available services that Governments are unable or reluctant to provide (Barnett, Connor and Putzy, 2001). Non-governmental organizations also play a key role in the more developed regions. Although the number of workplace AIDS programmes is increasing, a global survey of business firms found that companies are not particularly active in tackling AIDS, even when the epidemic is expected to pose serious problems for the business (UNAIDS, 2004b).

121. In summary, virtually all countries now recognize HIV/AIDS as a major concern. Developing countries especially face difficult choices in respect of striking a balance among prevention, treatment, and care, all of which are necessary to dealing comprehensively with the epidemic. Policies and programmes are increasingly addressing HIV/AIDS as a development challenge that requires a multidimensional national response, particularly in relation to poverty.

# VIII. Prevention, treatment and care

## Prevention

122. Prevention is the mainstay of the global response. With more new HIV infections reported in 2003 than in any previous year, substantially stronger efforts are needed to implement proved prevention strategies (UNAIDS, 2004b). At present, fewer than 1 in 5 people at risk of infection have meaningful access to basic prevention services (Global HIV Prevention Working Group, 2003). Were existing prevention approaches brought to scale on a global basis, the world could prevent 60 per cent or more of the new infections that are projected to occur by 2010 (Stover and others, 2002).

123. HIV is transmitted in three ways: (a) through sexual contact; (b) through direct exposure to blood, primarily as a result of injecting drug use, blood transfusions, or unsafe injections in health-care settings; and (c) from mother to child, before or during birth or as a result of breastfeeding. Effective means exist to prevent transmission through each of these modes. From the perspective of national programmes, the most effective approach is to implement a combination of strategies that reduce risk, diminish vulnerability, mitigate impact, and address all forms of HIV transmission. Brazil, Thailand and Uganda have shown that it is possible to reverse national epidemics through implementation of "combination prevention" programmes supported by strong political commitment and open discussion of the AIDS threat (UNAIDS, 2004b; 2001a).

124. *Sexual transm*ission. AIDS education and awareness, supplemented by carefully tailored programmes that assist individuals in avoiding HIV risk behaviours and in sustaining behaviour change, are critical elements of effective national programmes to prevent sexual transmission. Both male and female condoms are highly effective in preventing HIV transmission; and studies in Brazil, Cambodia, Thailand and several high-income countries have correlated reductions in the number of new infections with increases in condom use (UNAIDS, 2002a; 2002b). In addition to altering individual behaviour, HIV prevention programmes seek to forge healthier community norms. Much of Uganda's early success in reducing HIV infection rates, for example, appears to have stemmed from delays in initiation of sexual intercourse among young people and an overall reduction in the average number of sex partners (United States Agency for International Development, 2002). Following these initial changes, increased condom use likely played an important role in stabilizing the Uganda epidemic (Singh, Darroch and Bankole, 2003). Numerous approaches, including peer-based interventions, social marketing, and one-on-one or small-group counselling, have proved successful in delivering HIV prevention messages in diverse settings.

125. As sexually transmitted infections significantly increase the risk of sexual transmission of HIV, prevention and treatment of sexually transmitted infections constitute critical elements of a comprehensive HIV prevention programme. Although some countries have achieved major progress against AIDS without widespread knowledge of serostatus, ready access to voluntary counselling and testing should be scaled up, as it permits prevention counselling tailored to serostatus, thereby greatly bolstering prevention initiatives. Studies indicate that most individuals who test HIV-positive significantly reduce their risk behaviours, while the testing experience provides HIV-negative individuals with the opportunity to receive risk-reduction counselling and referral to more intensive prevention services.

126. Current efforts fall well short of what is needed to curb sexual transmission, the primary source of new infections worldwide. Many people at risk remain uninformed about the risks of HIV transmission. In several States in India, for example, fewer than 1 in 4 rural women have ever heard of AIDS (National AIDS Control Organization, 2003). Condom use remains low in many parts of the world and the condom supply worldwide falls 40 per cent short of what is needed to meet HIV prevention needs in low- and middle-income countries (UNAIDS, 2004b). Only 1 in 4 countries in sub-Saharan Africa reports that at least 50 per cent of patients with sexually transmitted infections are appropriately diagnosed, counselled

and treated. Worldwide, behaviour change programmes currently reach less than 20 per cent of the populations most vulnerable to HIV infection.

127. *Blood-borne transmission*. In Eastern Europe, parts of Asia, and the Southern Cone of South America, injecting drug use is driving the epidemic's expansion. "Harm reduction" involves a package of services to reduce the risk of transmission to injecting drug users, including outreach, interventions to reduce drug dependence (such as drug substitution treatment) and access to sterile injecting equipment for those who use drugs, combined with voluntary counselling and testing and comprehensive health-care services. Although studies have documented the effectiveness of harm-reduction programmes in reducing the risk of transmission, fewer than 1 in 10 injecting drug users worldwide currently have access to such programmes. Expanding access to life-saving prevention services for this vulnerable population requires substantial increases in financial support for harm reduction, as well as policy reform, including pragmatic tolerance from a legal perspective and financial support for needle exchange programmes, along with licensing of opiate substitutes and expansion of substitution maintenance therapy for opioid dependence. The International Narcotics Control Board (INCB) (2004) has confirmed that these harm-reduction measures do not contravene international drug control conventions.

128. Implementation of blood safety procedures is an essential element of a comprehensive national prevention programme. These procedures include centralized oversight of the blood supply, reliance on low-risk donors, avoidance of unnecessary transfusions, and universal screening of donated blood. Unsafe injections in health-care settings account for an estimated 2.5 per cent of infections in sub-Saharan Africa (Hauri, Armstrong and Hutin, 2004); such transmission can be prevented by avoiding the reuse of injecting equipment and promoting the use of auto-disable syringes.

129. *Mother-to-child transmission*. The vast majority of the more than 600,000 children who contract HIV each year become infected during pregnancy or birth, or as a result of breastfeeding (UNAIDS, 2004b). Primary prevention services for women represent the most effective strategy for reducing the number of infants infected with HIV. For women infected with HIV, a package of services exists to reduce the risk of transmitting the virus to their newborn. This package includes a systematic offer of HIV testing, comprehensive reproductive health counselling and services, access to antenatal care, a short-course regimen of antiretrovirals for mother and newborn, and counselling on infant feeding. Although this package of services has sharply reduced the number of newborns infected with HIV in high-income countries, only a small fraction of pregnant women in low- and middle-income countries are currently offered services that include antiretroviral interventions (UNAIDS, 2003b).

130. *Women and young people*. As the epidemic evolves, the burden on women and young people continues to mount. Although AIDS was once primarily a disease of men, women now constitute roughly one half of all people living with HIV worldwide, and an estimated 57 per cent of all persons living with AIDS in sub-Saharan Africa (UNAIDS, 2004b), where infection levels among adolescent girls are often at least twice as high as those reported among adolescent boys. In addition to being more biologically vulnerable than men to infection, women and girls also confront greater vulnerability as a result of their social, economic and

legal disadvantages. Because they are socially and economically dependent on men, and frequently at risk of violence, women often find it difficult to negotiate condom use. Effective prevention requires not only that women and girls receive accurate information, targeted prevention and support services, and access to condoms, but also that policy reforms be implemented that reduce women's vulnerabilities.

131. The Global Coalition on Women and AIDS brings together HIV-positive persons, civil society leaders, celebrity activists, non-governmental organization representatives, and United Nations figures to facilitate collaboration and to support innovative scaling up of efforts that have an impact on women's and girls' lives. The Global Coalition works on preventing HIV infection among girls and young women; reducing violence against women; protecting girls' and women's property and inheritance rights; ensuring women's and girls' equal access to treatment and care; supporting community-based care with a special focus on women and girls; promoting women's access to new prevention technologies; and supporting ongoing efforts towards girls' universal education.

132. Young people account for an estimated 1 out of 2 new infections. Essential prevention services for young people include school-based life skills and AIDS education, services for vulnerable out-of-school youth, and policies to reduce the vulnerability of young people. Current efforts are falling far short of what is needed to stem the epidemic among young people. Fewer than 30 per cent of young people in 31 of 38 countries surveyed in 2000 could accurately answer a set of standard questions on HIV transmission. Only half the countries reporting to UNAIDS in 2003 have been making efforts to incorporate a life-skills approach into educational programmes, and only a small fraction of out-of-school youth have meaningful access to HIV prevention programmes (UNAIDS, 2003b).

133. *Implementing national prevention programmes*. Although studies have shown a broad range of prevention strategies to be effective, the precise approaches that individual countries should adopt will depend on national circumstances. In general, prevention programmes in settings with low prevalence should focus primarily on preventing transmission among key population groups, such as sex workers and their clients, injecting drug users and men who have sex with men. Where prevalence is high, broad-based strategies that reach the entire society, including women and youth, are required but key populations should not be neglected. In all countries, measures to ensure universal access to treatment of HIV-related disease and to reduce vulnerability are essential to an effective response to AIDS.

## Care and treatment

134. Since the mid-1990s, most people living with HIV in high-income countries have had ready access to combination antiretroviral therapy. As a result, AIDS deaths have fallen sharply, and the quality of life for people living with HIV has dramatically improved. Until recently, for economic and logistic reasons, these life-preserving therapies were widely considered to be unfeasible in resource-limited settings. Owing to a variety of factors, including advocacy, the annual cost of providing a single patient with combination antiretroviral therapy in least developed countries declined from US$ 10,000-US$ 12,000 in 2000 to as little as US$ 150 in 2004, significantly increasing the affordability of antiretroviral therapy and, in

combination with additional donor financing, making AIDS treatment far more feasible in these countries.

135. *Global momentum for treatment.* In recent years, global momentum has developed to introduce antiretroviral therapy in low- and middle-income countries, which account for an estimated 95 per cent of people living with HIV worldwide. Brazil exhibited global leadership by implementing a new national policy in 1996 mandating universal access to antiretroviral therapy through the public sector. Subsequently, numerous national Governments — including those of Botswana, China and South Africa — have developed public sector plans to deliver antiretroviral therapy. The Global Fund to Fight AIDS, Tuberculosis and Malaria, endorsed in the Declaration of Commitment on HIV/AIDS, provided enough funding in its first three rounds to ensure the access to antiretroviral therapy of an estimated 700,000 people over five years (Global Fund to Fight AIDS, Tuberculosis and Malaria, 2004). Bilateral donors — most notably, the United States Government — have made major commitments to expanding access to antiretroviral therapy; and private foundations, including the Bill and Melinda Gates Foundation and the William J. Clinton Presidential Foundation, have significantly contributed to treatment scale-up in heavily affected countries. Recognizing that AIDS has the potential to devastate business operations, many private companies are taking major steps to offer antiretroviral therapy to their HIV-infected personnel. As a reflection of the new global resolve, the World Health Organization (WHO) and UNAIDS in December 2003 set a target of expanding access to antiretroviral treatment to 3 million people in developing countries by the end of 2005.

136. *Feasibility of treatment.* Pilot projects (such as the UNAIDS Drug Access Initiative launched in 1998) and other early experience with national programmes confirmed the feasibility of introducing antiretroviral therapy in resource-limited settings. As adherence of from 90 to 95 per cent is required to ensure the long-term success of antiretroviral therapy and reduce the risk of viral resistance, it is especially encouraging that patients in developing countries appear to adhere to antiretroviral therapy regimens at rates comparable with, or greater than, those reported in high-income countries. Recommendations issued by WHO provide guidance to national authorities in the selection of antiretroviral therapy regimens, training of health-care personnel, and development of clinical programmes to ensure high-quality medical care (World Health Organization, 2003). WHO guidelines emphasize that the introduction of antiretroviral therapy is appropriate in the absence of highly sophisticated diagnostic tests now in use in high-income countries. In addition, community-based resources can be used to support treatment activities in cases where trained clinical personnel are unavailable. Community mobilization and treatment literacy are increasingly understood as critical to supporting treatment adherence, reducing stigma and improving overall programme effectiveness.

137. *Limited coverage.* Despite the global momentum in favour of treatment access, WHO and UNAIDS estimated that only 440,000 people in low- and middle-income countries had been receiving antiretroviral therapy in June 2004 (World Health Organization, 2004). Globally, more than 9 people out of 10 who urgently need HIV treatment currently do not have access to it. To stem the growing tide of HIV-related illness and death, unprecedented global resources and political will must be mobilized to expand treatment access. In addition, strategies must be implemented to build the long-term national capacity that will be needed to sustain treatment

initiatives over the long run. Concerted efforts to reduce HIV-related stigma are also required so as to encourage utilization of voluntary counselling and testing services, consent to HIV testing when it is offered systematically in clinical settings, and uptake of appropriate treatment services.

138. *Equity*. As treatment access expands, it is vital that every effort be made to ensure equitable access to life-preserving therapies. Although financial and logistic barriers to scaling up treatment may be less severe in middle-income countries, donors, multilateral organizations, and national programmes should ensure comparable scale-up in the low-income countries that are most heavily affected by AIDS. While women now represent 1 out of 2 people living with HIV, the fact that they often confront major barriers in gaining access to health-care services, underscores the need to ensure gender equity in access to treatment. Similar efforts to expand access are also required for injecting drug users, who often receive antiretroviral therapy at rates far below those of other affected populations, even in countries where the epidemic is primarily driven by injecting drug use.

139. *Integrating prevention and treatment*. Prevention and treatment are mutually reinforcing components on a single service continuum. Greater access to antiretroviral therapy offers the possibility of strengthening prevention efforts by encouraging knowledge of serostatus, helping alleviate stigma, providing new venues where prevention interventions may be delivered, and potentially reducing the infectivity of HIV-infected individuals who are on therapy. Experience in high-income countries, as well as data-based mathematical models, indicates, however, that the prevention benefits of antiretroviral therapy may be offset by increases in risk behaviour following the introduction of effective therapies. To ensure long-term success in the fight against AIDS, treatment expansion should be accompanied by a comparable scale-up of prevention programmes, including the full integration of prevention services in clinical settings (Global HIV Prevention Working Group, 2004). Thus, the 3 by 5 movement, initially launched by WHO and UNAIDS to expand treatment access to 3 million people by the end of 2005, also includes efforts to accelerate HIV prevention programmes.

140. *Comprehensive care*. Although antiretroviral therapy is the most effective therapeutic approach to the management of AIDS, it is but one component of comprehensive care. In addition to prescribing and managing antiretroviral therapy when indicated, health-care providers should also deliver preventive and therapeutic interventions for HIV-related opportunistic infections. In particular, health-care systems should be vigilant and aggressive in respect of preventing and managing tuberculosis, the leading cause of death for people living with HIV. Nutritional support is also vital for the management of AIDS, as the epidemic often undermines food security even as people living with HIV require greater nutritional intake than non-infected individuals. As access to antiretroviral therapy expands, provision of palliative care will remain a pressing global priority.

141. In summary, the scaling up of HIV prevention, treatment and care represents a public-health challenge. Experience shows that treatment in resource-limited settings is feasible. As the global community seeks to advance towards the treatment, care and support goals set forth in the Declaration of Commitment on HIV/AIDS and the target of expanding antiretroviral therapy to 3 million people by the end of 2005, substantially greater efforts are required — among donors, national Governments, civil society, international agencies and other partners — to enable

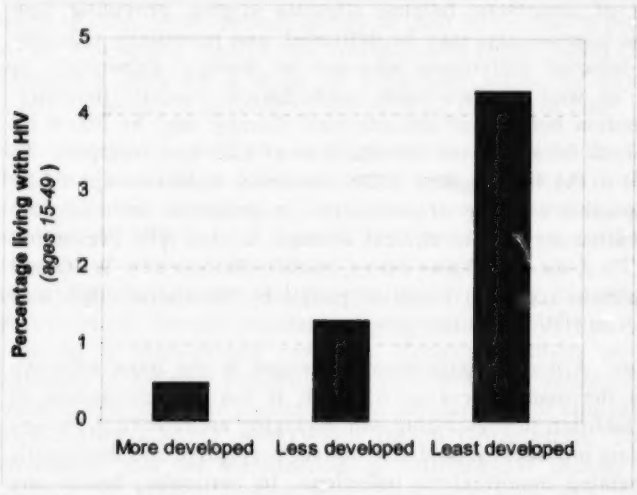
millions of people in need to gain access to life-preserving therapies and to scale up effective prevention strategies without which treatment will be unsustainable.

# IX. Conclusions

142. **HIV/AIDS is a global crisis. During the past quarter-century, the pandemic has gained momentum, expanding to all regions of the world, more developed and less developed alike. In spite of increased political commitment, heightened HIV awareness and additional financial resources, the epidemic continues to spread.**

143. **AIDS affects both the rich and the poor. However, the hardest-hit countries are among the poorest in the world. The prevalence of HIV in the least developed countries is nine times that of the more developed regions (see figure VIII).**

Figure VIII
**HIV prevalence rates in the more, less and least developed regions, 2003**




*Source:* UNAIDS (2004b).

144. **Prevention is the central pillar of action against HIV/AIDS. Awareness of behaviours that increase the risk of contracting HIV and resultant behavioural change are the key to prevention. However, in many countries, increased awareness has not yet translated into significant changes in behaviour.**

145. **Women and adolescent girls are especially susceptible to contracting HIV, both because of biological differences and because, in many places, gender inequality often makes it difficult to practice safe sex. Worldwide, women now make up nearly half of the adults living with AIDS. In sub-Saharan Africa, close to 60 per cent of adults living with AIDS are women and three quarters of the infected youths are women and girls.**

146. When prevention efforts fail, the next line of action is treatment. HIV/AIDS is still a fatal disease, but advances in treatment with antiretroviral drugs can mitigate the effects of the disease and prolong life. However, despite drastic reductions in the prices of these drugs, only about 1 in 10 of those needing treatment currently has access to antiretroviral therapy.

147. During 2004, about 3 million people died of AIDS, and by the end of that year, approximately 39 million people worldwide had been infected with the disease. HIV/AIDS has already erased a half-century of gains in life expectancy in highly affected countries. In the seven countries with HIV-prevalence rates above 20 per cent, life expectancy was estimated at 50 years in 1995-2000, about 13 years lower than it would have been in the absence of AIDS. Even if there were no new HIV infections after mid-2005, the number of AIDS-related deaths would continue to increase because of the large number of people already infected.

148. Among the regions of the world, Africa is the most affected by HIV/AIDS, with rates of infection still rising in many sub-Saharan countries. In addition, steep increases in HIV infections have been recently observed in some countries of Asia and Eastern Europe. HIV prevalence in the Caribbean is the second highest in the world. In some more developed countries, prevention efforts are also not keeping pace with the growth of the epidemic.

149. In addition to being responsible for a devastating number of deaths, HIV/AIDS affects and is affected by many population variables, including fertility, migration, population growth and family structure; but the impact of the epidemic reverberates throughout society and all sectors of the economy, with areas affected ranging from agricultural self-sufficiency and viable business activity to the human capital investment in education and health and the well-being of younger and older generations. AIDS exacerbates poverty which, in turn, hinders effective responses to the epidemic by individuals, families, communities and States.

150. Households and families bear most of the burden of HIV/AIDS since they are the primary units for coping with the disease and its consequences. Families suffer financially both from the loss of earnings and from the increased expenditure on medical care. Studies have documented reduced levels of household consumption, including reduction in food consumption. By 2003, 15 million children under age 18 had lost one or both parents to HIV/AIDS. It is common for relatives to take orphans into their homes, especially in African societies, but the rapid rise in the number of orphans overwhelms traditional support systems.

151. By placing heavy economic and social burdens on families and households, and eroding inter-generational support systems, AIDS increases poverty. In addition, it is straining the resources of the health and education sectors in poorer countries, where the next generation may be less healthy and less well educated than the previous one.

152. Socio-economic conditions in AIDS-affected countries are relatively poor, particularly in Africa. On average, in the heavily impacted countries, almost 40 per cent of the population aged 15 years or over are illiterate, one third of the population are undernourished, and only a little more than half the people

have access to improved sanitation; and everywhere, the impact of AIDS disproportionately falls upon those with the fewest economic and social resources, as they are the least likely to have health-related knowledge and information, and the least able to afford health care and treatment.

153. Most Governments report having implemented HIV/AIDS prevention programmes. However, in many of these countries, those most in need lack access to basic prevention services. Awareness and education are critical to changing risky behaviour and preventing sexual transmission of the virus. There are encouraging signs that concerns about contracting AIDS are leading to needed changes in sexual behaviour. For example, recent data from some African countries show that young unmarried men and women have become more likely to abstain from sex or to use condoms, and HIV prevalence has fallen in some places. In general, however, prevention efforts are limited and are failing to stem the spread of the HIV/AIDS epidemic.

154. The stigma associated with the disease increases vulnerability and may prevent individuals from seeking information or prevention services. Over one third of countries have not yet adopted AIDS-related non-discrimination legislation, and one third of countries have no policies to ensure women's equal access to prevention and care services. The lack of such legislation and policies hampers the effectiveness of national responses to HIV/AIDS.

155. The international community has recognized the terrible consequences of the epidemic and is taking steps to respond. In 1994, the Economic and Social Council endorsed the establishment of the Joint United Nations Programme on HIV/AIDS (UNAIDS) to help mount and support a coordinated response from the United Nations system. UNAIDS engages the efforts of many sectors and partners from government and civil society. Noting the devastating impact of AIDS in Africa, the Secretary-General, in 2003, established the Commission on HIV/AIDS and Governance in Africa to make recommendations for fighting the disease across Africa and to advise policy makers on how to address its profound impact. Virtually every international development programme recognizes the impact that AIDS is having on the implementation of its goals. Combating HIV/AIDS is under the rubric of one of the eight development goals of the United Nations Millennium Declaration. How well we succeed in achieving the goal of combating the HIV/AIDS epidemic will also affect our ability to achieve the other goals.

156. Unless more vigorous actions are undertaken to combat the disease and its effects, the HIV/AIDS epidemic portends a grim future for many countries, especially the poorest countries. There are hopeful signs of improved HIV/AIDS awareness, of greater political commitment and of increased financial resources. The Global Fund to Fight AIDS, Tuberculosis and Malaria, which was established in 2002 as a partnership among Governments, civil society and the private sector, provides additional moneys to fight the three diseases. By mid-2004, the Global Fund had approved over 300 grants in 128 countries totalling US$ 3 billion, most of which was directed towards AIDS programmes. Nevertheless, finances for the AIDS response are still falling short of the amount needed for prevention, treatment, care and support.

157. The eventual course of HIV/AIDS depends on how individuals, families, communities, nations and the world respond today and tomorrow. The future of

**the HIV/AIDS epidemic is by no means predetermined. Treatment and care of those with HIV/AIDS are certainly needed. However, the most critical pillar for action against HIV/AIDS remains prevention. HIV is transmitted in three ways: through sexual contact, through direct exposure to blood, and from mother to child. Preventive efforts must address all these modes of HIV transmission and the means exist to do so. The most effective approach to thwarting the HIV/AIDS epidemic is to implement a combination of strategies that reduces risks, diminishes vulnerability and mitigates impact.**

*Notes*

[1] Report of the International Conference on Population and Development, Cairo, 5-13 September 1994 (United Nations publications, Sales No. E.95.XIII.18), chap. I, resolution 1, annex.

[2] Press release SG/SM/7895-AIDS/31 of 23 July 2001.

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